

<div> <div>Milford Fire Department</div> <div>Specifications for a triple combination Stainless Steel Pumper</div> </div>	Bidder Complies	
	Yes	No
<div> <div>INSTRUCTIONS TO BIDDERS</div> <div> <p>Bidders are requested to read the complete bid invitation carefully and submit their proposals in strict accordance with the requirements set forth.</p> <p>Any questions regarding this specification must be submitted in writing and be received by Captain Flaherty a minimum of ten (10) business days prior to the bid opening date. Clarifications, corrections and/or changes shall be sent out in writing via fax or email to all prospective bidders.</p> <p>The Fire Department reserves the right to reject any or all bids or accept any bid presented which meet or exceed these specifications and which the Fire Department may deem shall be in the best interest of the Fire Department regardless of the amount proposed.</p> <p>The complete apparatus shall be manufactured within the continental United States. Vehicles manufactured outside of the continental USA shall not be considered. No exceptions will be permitted to this section of the document.</p> <div>ESTABLISHED BUILDER</div> <p>Bids shall only be considered from companies that have an established reputation in the field of fire apparatus construction and have been in continuous business for a minimum of thirty-five (35) years. A written chronological history of the bidder shall be included in the bid response package.</p> <p>Each bidder shall furnish satisfactory evidence of their ability to construct the apparatus specified, and shall state the location of the factory where the apparatus is to be built. They shall also show that they are in a position to render prompt service and to furnish replacement parts for said There shall be no exception to these requirements.</p> <div>INTENT OF SPECIFICATIONS</div> <p>It is the intent of these specifications to cover the furnishing and delivery to the Fire Department of a completed fire apparatus equipped as hereafter specified. With a view to obtaining the best results and the most acceptable fire apparatus for service in the Fire Department, these specifications cover only the general requirements as to the type of construction and test to which the vehicle must conform, together with certain details as to finish, equipment, and appliances with which the successful bidder must conform. Details of construction and materials where not otherwise specified are left to the discretion of the contractor, who shall be solely responsible for the design and construction of all non-specified features. The completed vehicle shall conform to the requirements of the National Fire Protection Association Pamphlet No. 1901, latest edition, for Motor Fire Apparatus, and shall exceed 1901 where specified herein for all applicable equipment noted.</p> <p>When evaluating bids, the importance of reduced life cycle costs and public safety associated with fire fighting apparatus shall be a major consideration and all evaluations shall exclude vehicles of a type that deviate from these specifications.</p> <p>Bids shall only be considered from companies that have an established reputation in the field of fire apparatus manufacturing.</p> <p>The workmanship must be of the highest quality. Special consideration shall be given to the following points:</p> </div> </div>		

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<div> <div> <div>1) Accessibility of the various components which require periodic maintenance or lube checks.</div> <div>2) Ease of vehicle operation.</div> <div>3) Visibility of the driver.</div> <div>4) Features supplied that are beneficial to the intended operation of the completed apparatus.</div> </div> <div> <p>Construction must be rugged and design must be certified to carry the loads as specified and to meet the road requirements and speed conditions as set forth under "Performance Test and Requirements".</p> <p>Welding shall not be employed in the assembly of the completed vehicle in a manner that shall prevent the removal of a major component part for service and/or repair.</p> <p>These specifications have not been established to preclude any bidders. However, the Fire Department does not intend to make a decision solely based upon lowest price but intends to purchase an apparatus that meets the intentions, service, and needs of the Fire Department.</p> <p><u>MODELS TO BE BID</u></p> <p>The model requested in the purchase description that follows is intended to be the "Top of the Line" model for the manufacturer. Sub-standard models that delete trim, functionality, service, and safety items shall not be acceptable. A statement from the bidder shall be provided in the bid proposal that states that the chassis offered is the "Top of the Line" model from the manufacturer.</p> <p><u>BONDING REQUIREMENTS</u></p> <p>The Bidder shall supply a bid bond in the amount of 10% of the proposed price.</p> <p>A 100% performance bond shall be furnished within thirty (30) days after contract approval and signing. The performance bond shall reference the warranty coverage and terms on the face of the bond. The Bidder's bonded warranty shall extend to the chassis and body regardless of manufacturer.</p> <p>Proposals received from Bidders who do not manufacture the chassis shall provide a separate warranty which is issued jointly and severally by, and signed by, both the Bidder and the chassis manufacturer. This document shall be included in the bid response package.</p> <p>If the successful Bidder does not manufacture the chassis, the Bidder shall supply a separate warranty bond (in addition to their performance bond) along with their signed contract which guarantees all terms and conditions of the warranty and names, as co-principals, both the Bidder and the chassis manufacturer. This warranty bond shall be issued for the contract amount and shall remain in force for a term which is consistent with the term of the warranty quoted in the bid.</p> <p>Bidders who manufacture the chassis should provide a warranty issued in their name only.</p> <p><u>ROAD TEST CERTIFICATION</u></p> <p>A road test shall be conducted with the finished apparatus fully loaded. During this time, the apparatus shall not show loss of power and/or overheating. The transmission driveshaft or shafts and</p> </div> </div>		

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<p>rear axle shall run free from abnormal vibration or noise throughout the operating range of the apparatus. The apparatus, when loaded, shall have not less than 25% or more than 45% of the weight on the front axle and not less than 55% or more than 75% on the rear axle.</p> <p>A. The apparatus must be capable of accelerating to 35 mph from a standing start within 25 seconds on a level concrete highway without exceeding the maximum governed RPM of the engine.</p> <p>B. The apparatus must be capable of accelerating from a steady speed of 15 mph to a true speed of 35 mph within 30 seconds. This shall be accomplished without moving the gear selector.</p> <p>C. The fully loaded apparatus shall be capable of obtaining a speed of 50 to 55 mph on a level concrete highway.</p> <p>D. The manufacturer shall furnish copies of the engine installation approvals signed by the appropriate engine company upon delivery of the chassis to the Fire Department.</p> <p>E. The manufacturer shall furnish copies of the transmission approval signed by the transmission manufacturer upon delivery of the chassis to the Fire Department.</p> <p>F. The manufacturer shall furnish copies of the front and rear axle approvals upon delivery of the chassis to the Fire Department.</p> <p>No exceptions will be permitted to this section of the document.</p> <p><u>ROAD TEST FAILURE</u></p> <p>In the event the apparatus fails to meet the test requirements of these specifications on the first trials, second trials may be made at the option of the manufacturer within thirty (30) days of the first trials. Such trials shall be final and conclusive and failure to comply with changes as the Fire Department may consider necessary to conform to any clause of the specifications within thirty (30) days after notice is given to the manufacturer of such changes, shall also be cause for rejection of the apparatus. Permission to keep or store the apparatus in any building owned or occupied by the Fire Department, shall not constitute acceptance.</p> <p><u>LIABILITY</u></p> <p>The bidder, if his bid is accepted, shall defend any and all suits and assume all liability for use of any patented process, device, or article forming a part of the completed vehicle or any appliance under the contract.</p> <p><u>INSURANCE</u></p> <p>Each bidder shall supply proof of adequate product liability, facility, and workers compensation insurance. This insurance certificate shall be provided as part of the proposal. The successful bidder shall provide within 30 days of award a insurance certificate listing the Town of Milford as additional insured.</p> <p>NO EXCEPTIONS!</p>		
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<p>SINGLE-LINE RESPONSIBILITY</p> <p>The bidder shall state if single line responsibility is being proposed. Yes/No: _____</p> <p><u>SERVICE</u></p> <p>Service after the sale is extremely important. Each bidder shall demonstrate within their proposal their ability to service this apparatus As well as their location/s and experience level of their technicians.</p> <p>This service center shall at a minimum have the following assets available to the town of Milford 24/7 On road service vehicles (provide pictures) On road pump testing services On road welding & fabrication ability as well as in shop fabrication In shop painting facilities Wheel lifts or drive on racks so as to allow for under vehicle service & inspection while standing without removal of equipment or water. OEM level Multi-plex electronics software Modems for factory assistance in electronics programming if required Cummins, Meritor, Allison, code analysis software Proof of employment of EVT certified technicians (provide certificates for all technicians and service managers)</p> <p><u>INSPECTION TRIP</u></p> <p>Two (2) inspection trips for up to two (2) Fire Department personnel shall be made to the manufacturer's facility during the course of construction of the apparatus. Air travel (for distances over 250 miles), meals, and lodging expenses shall be included.</p> <p><u>APPARATUS FAMILIARIZATION</u></p> <p>Fire Department personnel shall be instructed as to the use of the entire apparatus including, but not limited to, chassis, fire pump system, the apparatus, and supplied equipment. The familiarization specialist shall remain at the Fire Department for two (2) days (not less than eight (8) hours), to provide instruction to all personnel, or as instructed by Chief of the Department. All meals, motel, and travel costs shall be the responsibility of the successful bidder.</p> <p><u>DELIVERY DATA REQUIREMENTS</u></p> <p>Delivery of the completed vehicle shall be no more than two-hundred forty (240) calendar days after acceptance of the formal contract by the successful bidder.</p> <p>The manufacturer shall specify in his bid the number of calendar days after acceptance of the formal contract by the manufacturer that the completed vehicle shall be delivered to the Fire Department.</p> <p>Information required at time of delivery to be supplied by the manufacturer:</p> <p>A. Line set ticket showing parts used by the manufacturer in construction of the apparatus.</p>		
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<p>B. Electrical "as built" schematic booklet.</p> <p>C. Air system "as built" schematic booklet.</p> <p>D. Final build data sheet showing serial numbers for the following:</p> <p>1) Cab and chassis Vehicle Identification Number</p> <p>2) Engine</p> <p>3) Transmission</p> <p>4) Front axle</p> <p>5) Rear axle(s)</p> <p>6) Each tire showing mounting location on the chassis.</p> <p>7) Apparatus Serial Numbers</p> <p>E. Final build measurement data sheet showing the following:</p> <p>1) Bumper extension</p> <p>2) Wheelbase</p> <p>3) Rear overhang</p> <p>4) Cab measurements for the ground to the bottom of the cab at all four corners and the frame to cab extreme at the frame height for all four corners of the cab.</p> <p>5) Suspension measurements for the ground to the top of the frame at the centerline of the front axle and the centerline of the rear axle or centerline of the tandem axles.</p> <p>6) Overall Height, Length, and Width of completed body.</p> <p>F. Unless otherwise specified, a minimum of one (1) copy of complete, as delivered apparatus and chassis operation and general maintenance instructions including, but not limited to the chassis, engine, transmission, axles, and lubrication charts shall be supplied.</p> <p><u>WARRANTIES</u></p> <p>Each Bidder shall explain their warranties in detail at a minimum they shall include:</p> <table><tr><td>A) Base warranty:</td><td>two year</td></tr><tr><td>B) Corrosion warranty:</td><td>10 years</td></tr><tr><td>C) Frame warranty:</td><td>Life time</td></tr><tr><td>D) Major component warranties:</td><td>as provided</td></tr><tr><td>E) Paint</td><td>7 years</td></tr><tr><td>F) Tank</td><td>Lifetime</td></tr></table> <p><u>SINGLE SOURCE MANUFACTURER</u></p> <p>Bids shall only be accepted from a single source apparatus manufacturer.</p> <p>No exceptions will be permitted to this section of the document.</p> <p><u>TREATMENT OF BID EXCEPTIONS</u></p> <p>It shall be mandatory for any prospective bidder that deviates from the proposed specifications to give a full description of all deviations.</p>	A) Base warranty:	two year	B) Corrosion warranty:	10 years	C) Frame warranty:	Life time	D) Major component warranties:	as provided	E) Paint	7 years	F) Tank	Lifetime		
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<p>When the bidder checks the "yes" column in the bid the bidder is making testimony that the bidder is in full compliance with the entire paragraph.</p> <p>Where bidder's specifications and/or construction differ in any way from the bid specification, a full and complete description in specification shall be required. Drawings shall also be required to show alternative construction methods. Partial descriptions, or general clarifications covering groups of sections of the specification, shall be unacceptable and shall be cause for complete rejection of the bid.</p> <p>Proposals taking total exception to the purchase specifications contained herein shall not be accepted and the bidder's proposal shall be deemed non-responsive and rejected.</p> <p><u>SPECIAL NOTE ON SUBSTITUTIONS</u></p> <p>Where a subassembly manufacturer's name or "brand" name for a product is given in a specification description, the product identified is the desired product to use. Manufacturers using a product other than the named product must take an exception to the paragraph. Where the words "or equal" are used in a paragraph in reference to an identified product, an apparatus manufacturer can make an equal product substitution without taking an exception to the specification paragraph.</p> <p>Each bidder is encouraged to provide descriptive literature with their bid packet on any equipment or features that are proposed in lieu of those named and/or described in the specifications. Literature shall be originals and will be retained by the department for evaluation purposes.</p> <p><u>BID CLARIFICATIONS</u></p> <p>Each clarification shall refer to the bid specification page number and paragraph. Any such clarification that appears vague or misleading shall be considered an exception. Complete clarifications are required describing the reason for the deviation. The completed vehicle shall be inspected upon delivery for compliance with specifications. Deviations shall not be tolerated and shall be cause for rejection of the apparatus unless they were originally listed in the bidder's proposal.</p> <p><u>BID DOCUMENTS REQUIRED</u></p> <p>The bidder shall utilize this document in its bid. The bidder shall indicate opposite each item if they comply with that paragraph by checking "yes" or "no"</p> <p>The bidder shall provide detailed information on the materials to be used to construct all parts of the apparatus. A bidder's use of terms such as "intent" are considered vague and unacceptable responses will disqualify the bid.</p> <p>Copies of the bid document electronically reproduced used as a response specification are grounds for immediate disqualification of the bidder's submission.</p> <p>No exceptions will be permitted to this section of the document.</p> <p><u>DETAILED DRAWINGS REQUIRED</u></p>		

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<p>The bidder shall submit two (2) copies of a D-size (full size) engineered construction drawings with it's bid. No bids will be considered without complete engineered construction drawings submitted with the bid. Submitted drawings must be specifically for the proposed apparatus and depict all major specified components.</p> <p>These drawings shall show the following minimum views: front view; street side with proposed chassis; curbside with proposed chassis; rear view; top view with proposed chassis; hose bed height, and approach and departure angle.</p> <p>The drawings shall contain the dimensions for the overall length (in feet and inches), overall height (in feet and inches), wheelbase, angle of approach, angle of departure, overall width of the apparatus, hose bed volume dimensions indicating the hosebed width, length, and height.</p> <p>Submission of "similar to" or "standard" drawings, or statements referencing submission of drawings after award of contract, will disqualify the bid.</p> <p>No exceptions will be permitted to this section of the document.</p> <p><u>TURNING ABILITY DRAWING REQUIRED</u></p> <p>The bidder shall supply with the bid an engineering drawing that provides a top view of the apparatus with the following turning ability information listed in decimal feet: SAE turning radius, curb to curb radius, bumper swing radius, inside radius. The calculations must be performed according to SAE J-695.</p> <p>No exceptions will be permitted to this section of the document.</p> <p><u>CONTRACT AWARD</u></p> <p>The contract shall be awarded to the lowest and best bidder meeting these specifications. Since the complete vehicle materials specified are commercially available, these specifications shall in no way be considered proprietary. Each bidder shall submit on his proposal page a single line item price for all items listed in the specifications. Price shall be based on payment upon receipt of the accepted complete vehicle by the Fire Department. No discounts, options, or prepayment schedules shall be listed on the proposal page. All such items shall be listed on a separate page entitled OPTIONS and may or may not be considered at the discretion of the fire department.</p> <p><u>VEHICLE SUPPORT DOCUMENTATION</u></p> <p>For long term support of the vehicle and in order to provide proper maintenance, the following information shall be required with the delivery of the vehicle. It may be required to have this information provided during the bid process to ensure that the proper information is available from a potential vendor. Failure to provide this information in the exact requested format as a minimum shall be cause for rejection of the bid. Three-ring binders filled with vendor catalogs being supplied as a maintenance and operation manual shall not be acceptable under the conditions of this bid.</p> <p>This vehicle shall be in operation for a minimum of twenty (20) years. Fiscal responsibility of the vehicle extends beyond the initial cost of the apparatus. Reducing service and maintenance costs of the vehicle during it's useful life is a major consideration in the purchase of this apparatus. The requested documentation shall be utilized to properly train personnel for operation of the vehicle and to develop proper preventative maintenance programs to reduce operating cost of the vehicle.</p>		

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<p>With delivery of the vehicle, the following information shall be provided in electronic format. The format shall be such as to provide hyperlinks to major categories and/or subjects from a content page. A word search engine shall provide quick transport of the user to any area within the document when a keyword or phrase is found. The entire manual shall be able to be printed from the electronic media to paper form. The manual must be compatible with both PC and Mac platforms.</p> <p>An electronic Operator's and Maintenance Manual shall be provided. This manual shall encompass complete information for the vehicle and vehicle systems including all accessories and/or options.</p> <p>The Operator section of the manual shall describe each component, gauge and switch with proper operation and operational warnings.</p> <p>The Maintenance section of the manual shall provide proper maintenance of the vehicle for all systems and components supplied.</p> <p>A Lubrication section shall be provided in the manual. This section shall provide all lubricant types and capacities for the vehicle. Included in this section of the manual shall be lubrication diagrams to visually locate the lubrication points of the vehicle.</p> <p>An electronic Electrical System Manual shall be provided. This manual shall provide complete wiring schematics for the vehicle.</p> <p>The manual shall be provided with diagrams of the vehicle showing the wiring harness routing within the vehicle. Each of these diagrams shall include the connectors between the harnesses that provide a hyperlink to a drawing of the actual connector where pin functions can be examined.</p> <p>Schematics for each system of the vehicle shall be provided with hyperlinks to the connectors for pin designations and to the vehicle drawings for harness location within the vehicle.</p> <p>An electronic Air System Manual shall be provided. This manual shall provide complete air system schematics for the vehicle. The manual shall be provided with diagrams of the vehicle showing the air tubing routing within the vehicle.</p> <p>Schematics for each system of the vehicle shall be provided with hyperlinks to the tanks and valves and to the vehicle drawings for exact location within the vehicle.</p> <p>Additional documentation to be provided:</p> <p>A vehicle build sheet shall be provided. This build sheet shall include the major assemblies used in construction of the vehicle. Final inspection data including the serial numbers of the engine, transmission, axles, and tires equipped on the vehicle.</p> <p><u>SUBMISSION OF BID REQUIREMENTS</u></p> <p>Bids shall be submitted in accordance with the following instructions:</p> <p>1. The bid form provided herein shall be completed and returned with the appropriate "yes" or "no" marked by each paragraph in the "Bidder Complies" column. A paragraph indicated with both the</p>		
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<p>"yes" and "no" column marked shall be considered non-responsive and treated accordingly.</p> <p>2. Each bidder shall submit their own proposal specifications, detailing their construction. This is necessary to evaluate each bidder's actual intent of building the equipment as specified herein. The bidder's proposal format shall be the same order as these specifications to allow the Fire Department to compare all bids easily and prevent confusion. Failure to comply shall be cause for rejection of the bid.</p> <p>3. Each bid shall include the weight ratings, wheelbase, principal dimensions, transmission and axle ratios, and a certified brake horsepower curve showing the maximum no load governed speed of the engine proposed.</p> <p>4. Failure to submit detailed information or drawings where specified herein shall result in rejection of the bid.</p> <p>5. Bids shall be returned in a sealed envelope clearly marked "BID FOR FIRE APPARATUS". Facsimile bids are not acceptable.</p> <p>6. Verbal bids and changes in the bid price after the bid opening prior to award shall not be allowed. Any such attempt shall not be accepted and cause immediate rejection of the entire bid.</p> <p><u>ORIGIN OF MANUFACTURER</u></p> <p>Any manufacturer submitting a proposal or bid to these specifications shall meet the following conditions:</p> <p>1. The manufacturer of the apparatus herein specified shall be wholly owned (100%) and managed by a company, corporation and/or parent company that is wholly based and permanently resides in the United States of America.</p> <p>2. The company, corporation, and/or parent company, and all assets belonging to such, shall be wholly owned and managed by the entities specified above.</p> <p>3. Any proposal, bid or response to these specifications by any foreign based, owned or managed (in part or in whole) company, corporation and/or parent company, shall be cause for immediate rejection.</p> <p>4. Any proposal, bid or response to these specifications by any company, corporation and/or parent company, that is owned, operated, managed or held in contract, in part or wholly by a foreign interest partnership or other agreement, shall be cause for immediate rejection.</p> <p>There shall be no exception to these requirements.</p> <p><u>NFPA 1901-2009</u></p> <p>The National Fire Protection Association "Standard for Automotive Fire Apparatus, 2009 Edition, is hereby adopted and made a part of these specifications, the same as if it were written out in full detail, with the exception of the section dealing with "Equipment Recommended for Various Types of Apparatus". Bidders shall provide the equipment specifically requested herein and the Fire Department shall supply the rest before the apparatus is put into service.</p>		

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<p><u>CUSTOM CHASSIS - SINGLE SOURCE MANUFACTURER</u></p> <p>The chassis shall be designed and manufactured by the apparatus builder in the manufacturer's facility. The manufacturer shall demonstrate evidence of manufacturing similar custom vehicles for at least fifty (50) years.</p> <p>Bids shall only be accepted from a single source apparatus manufacturer. The definition of single source shall be "a manufacturer that designs and manufactures their products using an integrated approach, including the cab and chassis, pump module, and apparatus body being fabricated and assembled on the bidder's premises". The warranties relative to the chassis and body design (excluding component warranties such as engine, transmission, axles, pump, etc.) must be from a single source manufacturer and not split between manufacturers (i.e. body and chassis). The bidder shall provide evidence that they comply with this requirement. No exceptions will be permitted to this section of the document.</p> <p>The chassis shall be designed and manufactured for heavy duty fire service with adequate strength and capacity for all components as detailed within these specifications.</p> <p><u>CHASSIS FRAME</u></p> <p>The frame shall be designed to industry standards. The manufacturer shall provide a life time frame side rail warranty to the original Fire Department of the chassis.</p> <p>The frame rails shall be powder coated prior to chassis painting to reduce the effect of harsh road chemicals.</p> <p><u>CAB MAIN FRAME CROSSMEMBER</u></p> <p>In addition to the rear cab support crossmember there shall be a main frame cross member mounted in the rear cab area. This cross member shall be a wide base flanged design to provide frame spacing and excellent strength to prevent frame paralleling. Every frame cross member shall be bolted in place using grade 8 bolts, hardened washers, and grade "C" distorted thread locknuts.</p> <p><u>FRONT AXLE</u></p> <p>The front axle shall be a MERITOR model "MFS20-133A-N" with a 20,000 lb. Capacity.</p> <p><u>CRAMP ANGLE</u></p> <p>The chassis shall have a turning cramp angle of 45-degrees. Both left and right turns have a full 45° cramp angle with tires and wheels mounted on the axle and installed in the chassis. The 45°cramp angle is achieved irrespective of options such as front suctions.</p> <p><u>FRONT AXLE OIL SEALS</u></p> <p>The front axle shall be equipped with oil bath type oil seals and shall be equipped with transparent covers for oil level inspection.</p>		

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<p><u>FRONT AXLE BRAKES</u></p> <p>The front brakes shall be Cam-Master Q Plus, 16-1/2" X 6" (419 x 152), S-Cam, air operated heavy duty brakes.</p> <p>The front axle shall be equipped with automatic slack adjusters to provide optimum brake performance.</p> <p><u>FRONT SUSPENSION</u></p> <p>The front suspension shall be a pin and shackle design. The front springs shall have a military wrapper for safe operation. All front spring pins shall equipped with grease fittings for lubrication.</p> <p>The entire front suspension shall be designed for heavy duty custom fire apparatus with a capacity of 20,000 lbs. Double acting hydraulic shock absorbers are to be installed.</p> <p><u>STEERING SYSTEM</u></p> <p>The steering shall be equipped with dual SHEPPARD M100/392 integral power steering gears. The engine shall be equipped with a gear driven pump.</p> <p>A remote steel reservoir shall be provided with the ability to check the fluid level when the cab is in the lowered position.</p> <p><u>FRONT TIRES</u></p> <p>The front tires shall be 385/65R22.5-20PR (L) MICHELIN XFE tread, tubeless radial tires. These tires shall be mounted on 22.5" x 12.25" rims.</p> <p><u>ALUMINUM WHEELS</u></p> <p>Two (2) polished aluminum wheels shall be supplied and installed on the front axle.</p> <p>The aluminum wheels shall be supplied with wheel treatment for a bright finish and wheel protection.</p> <p><u>FRONT WHEEL TRIM</u></p> <p>The front axle shall be trimmed with mirror finish, non-corrosive stainless steel 'baby moon' hub caps with an opening for viewing the oil seal cover, and bright finished nut covers.</p> <p><u>SINGLE REAR AXLE</u></p> <p>The rear axle shall be a MERITOR model "RS-30-185" with a 31,000# capacity.</p> <p><u>DRIVER CONTROLLED DIFFERENTIAL LOCK</u></p> <p>The rear axle shall be supplied with a driver controlled differential lock. An air control valve shall be</p>		

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<p>provided on the Driver's dash panel complete with a light to indicate when the differential is in the locked position.</p> <p><u>REAR AXLE BRAKES</u></p> <p>The rear brakes shall be Cam type, 16-1/2" X 7" (419 x 178), S-Cam, air operated heavy duty brakes The rear axle shall be equipped with automatic slack adjusters.</p> <p><u>VEHICLE TOP SPEED</u></p> <p>The rear axle shall be geared for a top speed of no more than 60 mph <u>at engine governed RPM.</u></p> <p><u>SINGLE AXLE REAR SUSPENSION</u></p> <p>The rear spring suspension shall have a rating of 31,000 lbs capacity. Two (2) main frame cross members shall be mounted in the rear suspension area, bolted to the frame rail as a rear suspension support member.</p> <p><u>TIRE CHAINS</u></p> <p>The rear axle shall be equipped with an ON-SPOT automatic tire chain system. The system shall provide instant traction at the touch of a button, without having to stop the vehicle.</p> <p>The driver's dash shall have an electric control switch, clearly labeled for operation of the tire chains. The switch shall be provided with a guard to prevent accidental deployment of the tire chains.</p> <p><u>AIR SYSTEM</u></p> <p>An air brake system meeting the requirements of the FMVSS shall be provided. The system shall consist of three (3) reservoirs with a 4,362 cu. in. volume. The air system shall consist of the following components: Dual air system with dual gauges and a warning light and buzzer. A spring actuated parking brake built into the rear axle brakes with a manual control and warning light the in cab. These shall automatically apply in case of air system failure.</p> <p>A quick build up system shall be provided, capable of building enough air pressure to release the spring brakes in less than thirty (30) seconds, when starting with the entire air system at zero pounds pressure.</p> <p>The spring brakes shall be piped in such a manner that if the treadle valve is depressed while the spring brakes are applied, the spring brakes shall release and remain released as long as the treadle valve is depressed. They shall reapply immediately when the treadle valve is released.</p> <p>The piping in the air system shall be Heavy duty nylon reinforced color coded tubing.</p> <p><u>AIR DRYER</u></p> <p>The air system shall include a BENDIX AD-SP air dryer.</p>		

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<p>The air dryer shall have a spin off desiccant cartridge.</p> <p>The air dryer shall incorporate an integral turbo cutoff valve. A 12 volt watt heated moisture ejector shall be an integral part of the air dryer. This heater shall be thermo- statically controlled. The electrical connection for the heater shall use a sealed electrical connector to protect against moisture and corrosion.</p> <p><u>ON-BOARD ELECTRIC COMPRESSOR</u></p> <p>A KUSSMAUL AUTO AIR model 091-9B-1 on-board air compressor shall be supplied. The compressor shall be located in the officer's side step well with a bolt on style access panel, the air compressor shall be permanently wired to the 120 VAC shore line connection.</p> <p><u>ACCESSORY AIR RESERVOIR</u></p> <p>One (1) 2181 cu. in. additional reservoir shall be connected to the chassis air system to provide an air supply for accessories such as air powered tools or primers. This reservoir shall include a pressure protection valve on the inlet side to allow full use of this tank without draining air from the chassis air system.</p> <p><u>MANUAL AIR TANK DRAINS</u></p> <p>All air reservoirs shall have manual 1/4 turn drain valves.</p> <p><u>AIR AUTO-EJECT</u></p> <p>The chassis shall be equipped with a KUSSMAUL automatic air line disconnect. The Air Eject shall be wired so that when the vehicle is started the Air Eject automatically disconnects the air line. A Kussmaul weatherproof adapter kit shall provide a recessed mounting for the Air Eject. A self closing, yellow, weatherproof cover shall be used to provide a water-tite seal for the Air Eject.</p> <p>The Auto Air Eject assembly shall be mounted on the exterior of the cab behind the driver's door.</p> <p><u>MERITOR/ROCKWELL/WABCO ABS BRAKE SYSTEM</u></p> <p>A MERITOR ABS Braking System shall be supplied.</p> <p>An ABS warning light shall be installed on the driver's dash message center.</p> <p><u>MERITOR/WABCO STABILITY ENHANCEMENT SYSTEM</u></p> <p>A Meritor Roll Stability Control System shall be provided on the apparatus chassis.</p> <p><u>REAR TIRES</u></p> <p>The rear tires shall be 315/80R22.5-20PR (L) MICHELIN XZY-3 traction tread, tubeless radial tires.</p> <p><u>ALUMINUM WHEELS</u></p>		
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Milford Fire Department Specifications for a triple combination Stainless Steel Pumper	Bidder Complies	
	Yes	No
<p>Four (4) polished aluminum wheels shall be supplied and installed on the single rear axle. The wheels shall be highly polished on the outboard side.</p> <p>The aluminum wheels shall be supplied with wheel treatment for a bright finish and wheel protection.</p> <p><u>REAR WHEEL TRIM</u></p> <p>The rear axle shall be trimmed with mirror finish, non-corrosive stainless steel "Lincoln Hat" hub cover and bright finished nut covers.</p> <p><u>LASER ALIGNMENT</u></p> <p>The chassis shall have a laser alignment performed at the factory before delivery.</p> <p><u>TIRE PRESSURE MONITORING DEVICE</u></p> <p>Each tire installed on the apparatus shall be equipped with a tire pressure monitoring device. The device shall consist of a valve stem cap to with an LED tire alert to indicate tire pressure conditions.</p> <p><u>DIESEL ENGINE</u></p> <p>The chassis shall be powered by a 2007 Emissions compliant CUMMINS Diesel engine as described below:</p> <p>MODEL: ISM-500</p> <p>AIR CLEANER: Farr or equal with fresh air intake</p> <p>OIL FILTER: A full flow / by-pass combination</p> <p>LUBE OIL COOLER: Unitized design non-drainback full flow cooling</p> <p>FUEL FILTER: One fuel filter providing 10 micron absolute filtration with check valve</p> <p>STARTER: A Delco, 12 volt, 39 MT-HD starter motor</p> <p>AIR COMPRESSOR: A Wabco 18.7 cfm compressor shall be provided.</p> <p><u>ENGINE COOLANT RADIATOR</u></p> <p>The engine coolant radiator shall have sufficient capacity to perform under the engine manufacturer installation requirements. The chassis manufacturer shall demonstrate the ability to meet this requirement with the submittal of an approved EPQ to the Fire Department for the apparatus.</p> <p><u>COOLANT RECOVERY TANK</u></p> <p>A coolant recovery tank shall be installed on the chassis. This tank is designed to capture coolant overflow when the engine coolant warms and expands. As the engine cools the overflow is then pulled out of the tank and back into the radiator, thus maintaining proper coolant levels.</p>		
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Milford Fire Department Specifications for a triple combination Stainless Steel Pumper	Bidder Complies	
	Yes	No
<p><u>COOLANT</u></p> <p>The coolant system shall contain an ethylene glycol and water mixture to keep the coolant from freezing to a temperature of -34 degrees F.</p> <p><u>COOLANT HOSES</u></p> <p>The entire chassis cooling system shall have premium rubber hoses.</p> <p><u>ENGINE BRAKE</u></p> <p>A "JACOBS" Engine Brake shall be supplied.</p> <p>The driver's dash shall include an engine brake control switch.</p> <p>The brake lights shall illuminate when the Jacobs Brake is in operation.</p> <p>The Jacobs brake shall be inoperative when the chassis is in pump mode.</p> <p><u>ENGINE FAST (HIGH) IDLE</u></p> <p>The chassis shall be equipped with an Electronic Idle Control for the electronic engine.</p> <p>The fast idle provision shall only function when the parking brake is set and the transmission is in neutral. Manual selection of the fast idle shall be controlled by a driver's momentary switch.</p> <p>Automatic activation of the fast idle shall occur when a low voltage condition exists, Cancellation of the fast idle shall be achieved by resetting the manual switch or by depressing the service brake pedal.</p> <p><u>ENGINE COOLANT FILTER</u></p> <p>A precharged spin-on corrosion inhibitor/water filter shall be installed in the cooling system. Shut off valves shall be supplied on both sides of the filter to facilitate element changing without loss of cooling system fluid.</p> <p><u>SPARK ARRESTOR</u></p> <p>A spark arrestor shall be installed in the chassis air intake system. This arrestor shall be mounted behind the intake grille to filter out airborne embers.</p> <p><u>HORTON FAN</u></p> <p>A HORTON fan clutch shall be installed on the engine. A manual switch shall be provided in the dash, to over ride the fan control in event of fan failure.</p> <p><u>EXHAUST SYSTEM</u></p>		

Milford Fire Department Specifications for a triple combination Stainless Steel Pumper	Bidder Complies	
	Yes	No
<p>A single exhaust pipe shall be provided for the engine. The aluminized muffler shall be located under the frame on the right side of the apparatus. The tailpipe shall extend from the exhaust muffler to the rear of the vehicle making a 90° bend to exit the vehicle ahead of the rear tires on the curbside of the vehicle.</p> <p><u>TRANSMISSION</u></p> <p>The transmission shall be an Allison 4000EVS automatic transmission with electronic controls.</p> <p><u>TRANSMISSION COOLER</u></p> <p>An automatic transmission cooler shall be provided as an integral part located in the bottom tank of the radiator.</p> <p><u>TRANSMISSION FLUID</u></p> <p>The transmission shall be provided with heavy-duty transmission fluid meeting Allison specification TES-389.</p> <p><u>DRIVELINES</u></p> <p>Universal joints and driveshafts shall be SPICER 1810 series or equal. Drivelines shall be balanced to prevent vibration.</p> <p><u>FUEL TANK</u></p> <p>The fuel tank shall have a capacity of 50 gallons and be D.O.T. certified. The tank shall have a 2" NPT fill to the driver's side of the chassis.</p> <p>The fuel tank sending unit is to be mounted to the <u>side</u> of the fuel tank for easy replacement without removing body panels.</p> <p><u>FUEL/WATER SEPARATOR</u></p> <p>The Cummins engine shall be equipped with an integrated fuel / water separator with a self venting bottom drain valve.</p> <p><u>ALTERNATOR</u></p> <p>A LEECE-NEVILLE 270 Amp alternator shall be installed on the engine.</p> <p><u>FIRETRUCK CAB</u></p> <p>The apparatus shall be designed to operate in emergency conditions. A cab-over-engine design is required in order to reduce the overall length of the apparatus thus increasing the maneuverability. The cab design must be such to provide safe and efficient transport of emergency personnel. The cabin shall be designed with four (4) side doors of the largest size possible and with a grab handle and step arrangement to provide ease of entry and egress.</p>		
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<div> <div>Milford Fire Department</div> <div>Specifications for a triple combination Stainless Steel Pumper</div> </div>	Bidder Complies	
	Yes	No
<p>There shall be six (6) positions available for occupant transport with a minimum of four (4) forward facing seating positions in the cab. The number of seats and seating locations are described in detail later in this document.</p> <p>The apparatus cab shall be of the latest in automotive design, styling and appearance.</p> <p><u>CAB MATERIALS AND CONSTRUCTION</u></p> <p>The extruded aluminum cab shall be constructed from 3/16 aluminum minimum. No Exceptions. Each bidder shall supply a detail as to how the cab is constructed as well as meet the following dimensions at a minimum:</p> <div> <div>Exterior dimensions</div> <div> Overall Width - 100 inches Roof - 12" Raised Center of front axle to back of cab - 60 inches Center of front axle to front of cab - 74 inches Windshield area - 3,756 sq. in. minimum Cab full tilt angle - 45 degrees minimum Cab full tilt height - 185 inches maximum </div> </div> <div> <div>Interior dimensions</div> <div> Drivers side floor width 25-1/2 inches minimum Floor to the ceiling in the driver and officers area of the cab 59-1/2 inches minimum Floor to the top of the doghouse 28-1/2 inches maximum Officers side floor width 24-1/2 inches minimum Floor to the ceiling in the rear of the cab 65-3/4 inches minimum </div> </div> <p><u>CAB DOORS</u></p> <p>The cab entry and egress shall be designed for a firefighter in full turnout gear. Each door shall open a minimum of ninety degrees to afford the firefighter maximum space.</p> <p>The doors shall be of a flush design each having exposed, one-piece, polished stainless steel hinges. The hinge shall be made of 12-gauge material with a minimum hinge pin diameter of 1/4 inch.</p> <p>The door windows shall have interior and exterior glass weather seals to prevent the influx of exterior air.</p> <p>The doors shall have exterior and interior paddle type latches for ease of opening with a gloved hand. The paddle latches are to have a rubber gasket, on the outside, separating the handle from the finished painted surface.</p> <p><u>FRONT DOORS</u></p> <p>The cab front doors shall be of the full-length design enclosing the entire step area of the cab. The door shall be a minimum of 38-1/2 inches wide and 74 inches tall. The front door windows shall have a minimum of 712 square inch area of viewing glass per door. There shall be a fixed piece of forward glass in each of the front doors.</p> <p><u>REAR CAB DOORS</u></p>		

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	Yes	No
<p>The rear cab doors shall be similar to the forward doors and shall be located directly behind the front wheel well area. These doors shall be 86 inches high x 34 inches wide. Each door shall have a roll down rear window with a minimum glass viewing area of 670 square inches.</p> <p><u>INTERIOR DOOR LOCKS</u></p> <p>All doors shall have door locks with interior controls and exterior keyed door locks. Each door shall be equipped with a locking mechanism with an operating means in the interior of the vehicle". All doors shall be keyed alike. The doors shall be equipped with appropriate safety interlocks to prevent accidental locking of the doors when closed.</p> <p><u>DASH TRIM</u></p> <p>The drivers cab dash console shall be made of black ABS with an appearance of the latest in automotive design, styling. Accompanying the dash console in the forward section of the cab shall be an officers side flat dash for the mounting of a mobile data terminal.</p> <p><u>CAB GLASS</u></p> <p>AS-1 safety laminate glass shall be used in a two piece, wrap around design with a minimum 3760 square inches of windshield area for maximum visibility. The windshield shall have the style of a one-piece assembly with the practical installation of two pieces for lower replacement cost. The windshield shall be readily available from a nationally recognized automotive glass manufacturer that maintains local distribution outlets. All glass shall be tinted.</p> <p>All fixed glass shall be installed with a one-piece triple locked rubber lacing material. Due to long term appearance two-piece chrome trim lock lacing is not desired.</p> <p><u>SUNVISORS</u></p> <p>The driver and officer side of the cab shall be equipped with a sun visor. The vinyl covered visors shall be a minimum of 17-1/2" by 9".</p> <p><u>DRIVER SIDE ELECTRICAL CABINET</u></p> <p>Beneath the drivers seat there shall be an electrical cabinet designed to house the main battery electrical disconnect and a onboard battery conditioner. A bolt aluminum diamond plate hatch shall be installed on the front side of the seat box. The access hatch shall have a louvered section to provide air circulation to the cabinet.</p> <p><u>WINDSHIELD WIPERS</u></p> <p>Two speed electric pantograph wipers shall be installed. These wipers shall have minimum 24" blades and have 28 1/2" wet arm electric pump washers. A windshield washer reservoir shall be furnished.</p> <p><u>STEERING WHEEL AND COLUMN</u></p>		

<div> <div>Milford Fire Department</div> <div>Specifications for a triple combination Stainless Steel Pumper</div> </div>	Bidder Complies	
	Yes	No
<p>The steering column shall be a tilt / telescopic type with an integral high beam / turn signal control switch. The column shall have self-canceling design for the turn signal switch. A 4-way warning "Hazard" light switch shall be mounted on the column. The steering wheel shall be a minimum of 18-inch diameter, covered with a padded absorbite finish. A lever on the left side of the steering column shall control the telescopic feature of the steering column.</p> <p><u>FASTENERS</u></p> <p>All cab exterior fasteners shall be stainless steel type fastened to the cab with nutserts.</p> <p><u>BATTERY ACCESS</u></p> <p>The rear cab steps shall have a removable kick panel, providing access to the batteries for routine maintenance and inspection.</p> <p><u>CAB CORROSION TREATMENT</u></p> <p>The cab shall have a corrosion preventative material applied during and after construction.</p> <p><u>TRANSMISSION SELECTOR</u></p> <p>The transmission shall be controlled by a push button type shift control. It shall be internally illuminated for night operation.</p> <p><u>TRANSMISSION OIL LEVEL SENSOR</u></p> <p>The transmission shall be equipped with the oil level sensor. This sensor shall allow the operator to obtain an indication of the fluid level from the shift selector. The sensor display shall provide the following checks, correct fluid level, low fluid level and high fluid level.</p> <p><u>EMI/RFI PROTECTION</u></p> <p>The apparatus shall incorporate the latest designs in the electrical system with state of the art components to insure that EMI and RFI emissions are suppressed.</p> <p>The apparatus proposed shall have the ability to operate in the environment typically found in fire ground operations with no adverse effects from EMI/RFI.</p> <p><u>BATTERY BOX TRAY - PAINTED STEEL</u></p> <p>The battery box trays shall be painted steel. The battery hold down brackets hardware shall be black powder coated to resist corrosion.</p> <p><u>BATTERY BANK</u></p> <p>A single battery system shall be provided, utilizing four (4) Group 31 batteries. A battery disconnect switch shall be used to activate the system. A green pilot light shall illuminate to indicate that the battery bank is activated.</p>		

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	Yes	No
<p><u>BATTERY CABLES</u></p> <p>All battery wiring shall be "GXL" battery cable capable of handling 125% of the actual load. It shall be run through a heat resistant flexible nylon loom rated at a minimum of 300 degrees Fahrenheit. All cable connections shall be machine crimped and soldered.</p> <p><u>STARTING CIRCUIT</u></p> <p>One (1) engine start button is to be located on the lower right dash panel. It shall be wired to heavy duty solenoid rated at not less than 1100 amps. The battery indicator light is to be located directly above the start button to indicate that the battery bank is on.</p> <p><u>BATTERY CHARGER</u></p> <p>A PRO MARINER / ON BOARD SOLUTIONS, PRO TECH-4, 1240, advanced electronic 4-step battery charger/power supply with a 40 amp output shall be installed, under the driver's seat.</p> <p><u>REMOTE CHARGE INDICATOR PANEL</u></p> <p>A KUSSMAUL 91-94-12 charge indicator shall be supplied. and installed on the driver's seat box adjacent to the master battery switch.</p> <p><u>SHORELINE AUTO-EJECT</u></p> <p>A KUSSMAUL Super Auto Eject, model 091-55-20-120, with weatherproof cover shall be provided.</p> <p>The electrical connection shall be provided as a 120-volt AC - 20 amp type using a NEMA 5-20P connector.</p> <p>The Auto-Eject cover shall be a Kussmaul 091-55YW, yellow in color and shall be mounted on the exterior of the cab behind the driver's door.</p> <p><u>ENGINE DOGHOUSE</u></p> <p>The engine doghouse inside the cab will be padded with a layer of sound and heat absorbing foam and covered with heavy duty vinyl trim upholstery to match or accent the interior of the cab.</p> <p>The insulation for protection from heat and sound shall keep the dBa level within the limits stated in the current edition of NFPA 1901.</p> <p><u>ACCESS FOR FLUID SERVICING</u></p> <p>The engine enclosure shall have a hinged and latched panel to provide access to the engine lubricating oil dipstick, power steering fluid reservoir dipstick and engine coolant recovery reservoir. This access shall allow that these fluid levels can be checked and topped off, if required, without raising the cab.</p> <p><u>CAB DOORS</u></p>		

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	Yes	No
<p>To provided durability and a reflective surface for night operations the interior of the cab doors shall be finished with full length brushed stainless steel panels</p> <p><u>INTERIOR CEILING PADDING AND TRIM</u></p> <p>The cab front interior ceiling shall have a one-piece, removable, vinyl headliner to cover all wiring and tubing used for lights and antenna leads.</p> <p><u>REAR WALL COVERING</u></p> <p>The rear interior wall of the cab shall have a two-piece, removable, wall covering to finish the interior trim, cover all wiring and tubing used for lights and antenna leads.</p> <p><u>FLOOR COVERING</u></p> <p>The front and rear floor areas of the cab shall be covered with sound barrier floormats that have embedded pebbled grain wear surface.</p> <p><u>CHEVRON - INTERIOR CAB DOOR</u></p> <p>A red and white chevron reflective striping design shall be installed on each cab door. The chevron shall be centered on the door kick plate and shall be visible when the cab door is open to traffic.</p> <p><u>INTERIOR CAB STEP TRIM</u></p> <p>The cab steps shall be completely enclosed behind each door. The toe kick surface shall be covered with aluminum treadplate trim.</p> <p><u>GRAB HANDLES</u></p> <p>Molded grab handles shall be installed inside the cab. The handles shall be located on the officer's side on the A Post. and one each side on the B Posts side of the crew area doors.</p> <p><u>RADIO COMPARTMENT WITH DOOR</u></p> <p>Beneath the officer's seat there shall be a radio compartment with interior dimensions of 19-1/2" wide x 17" long x 7" high. This compartment shall have a side mounted diamond plate door mounted on a piano hinge.</p> <p><u>INTERIOR CAB STEP TRIM</u></p> <p>The cab steps shall be completely enclosed behind each door. No portion of the cab entrance step shall be exposed when the door is in the closed position. The lower step shall be sealed from the under side of the cab to eliminate road splash from entering the step area while the vehicle is driving. The horizontal step surfaces shall be covered with bright aluminum tread plate meeting the requirements of NFPA-1901.</p>		

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	Yes	No
<p>The vertical toe kick surface area of the cab step wells shall be covered with aluminum tread plate.</p> <p><u>COMPARTMENT OPEN LIGHT</u></p> <p>A Red Open Compartment Flashing Whelen LED shall be mounted on the driver's side face of the overhead panel. A chrome flange is to be supplied with the light. The light shall be wired so that the light is deactivated when the parking brakes of the apparatus are applied. A label shall be applied adjacent to the light 'DOOR OPEN'.</p> <p><u>DOME LIGHTS</u></p> <p>Four (4) seven inch diameter clear dome lights shall be supplied. These lights shall be operated by opening any door, as well as, by individual switches mounted on the individual clear lens light.</p> <p>Two (2) lights shall be installed in the front of the cab, one each adjacent to the driver and officer. Two (2) lights shall be installed in the rear crew area of the cab.</p> <p><u>RED DOME LIGHTS</u></p> <p>Three (3) seven inch diameter red dome lights shall be supplied. These lights shall be operated individual switches mounted on each light.</p> <p>One (1) light shall be installed in the front of the cab adjacent to the officer. Two (2) lights shall be installed one each side of the rear crew area.</p> <p><u>STEP WELL LIGHTING</u></p> <p>Four (4) step well lights shall be supplied. The lights shall be Whelen OS Series white LEDs with angled chrome plated covers, one in each step well. All step well lights shall be illuminated when any door is opened and the battery selector switch is on.</p> <p><u>CAB HEATER / DEFROSTER</u></p> <p>The in cab climate control system shall be installed beneath the dash on the officers side of the cab. This unit shall include a three-speed blower, temperature control valve and a 44,000 BTU heater core.</p> <p>The heater control shall be located on the doghouse mounted control center. The control shall have separate on-off blower speed switch, thermostat control and outlet blend air switch.</p> <p>There shall be one heat outlet with directional and flow control provided on the driver and one on the officer side of the control center.</p> <p>There shall be one under dash floor directed heat outlet provided on the drivers side and one on the officers side of the cab.</p> <p>There shall be two floor heater outlets, one located on each side of the cab beneath the dash.</p> <p>There shall be a Max Flow defrost system installed into the front of the cab. The ducting of the Max Flow system shall direct heated air onto the windshield to provide defrost and defog capability.</p>		
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Milford Fire Department Specifications for a triple combination Stainless Steel Pumper	Bidder Complies	
	Yes	No
<p><u>45,000 BTU AIR CONDITIONING</u></p> <p>A climate control system shall be furnished in the cab. The system shall consist of a 45,000 BTU air conditioning evaporator centrally located on the rear of the engine doghouse.</p> <p>The system is to have a 12.6 cu. in. minimum compressor. The compressor is to be plumbed to a heavy duty truck, dual fan air conditioning condenser mounted on the cab roof. The condensing unit shall have an aerodynamic shroud that is painted to match the color of the cab roof. There shall be an extended life filter receiver/dryer installed to protect the system from contaminates, moisture, and high pressure. It is to have a sight glass for visual inspection and ease of service.</p> <p>The evaporator shall have an externally equalized expansion valve and be thermostatically protected to prevent freeze up. Dual high performance 3-speed blowers shall provide a minimum of 700 CFM air flow. Each blower is to be controlled separately. Four (4) forward facing and three (3) rear facing full adjustable diffusers with shutoff capability shall be utilized to direct the air flow through the cab.</p> <p>The air conditioning on/off switch, thermostat control, and blower switches shall be located on the evaporator unit.</p> <p><u>36,000 BTU SUPPLEMENTAL HEATER</u></p> <p>A 36,000 BTU auxiliary heater shall be furnished inside the evaporator unit to provide additional cab heating during cooler weather. The heater core is to be plumbed to the water lines of the engine cooling system.</p> <p><u>CAB INSULATION</u></p> <p>Foam rubber type insulation shall be installed in the rear wall and the cab ceiling to provide a better sound and heat barrier. The insulation shall be a minimum of 1" thick.</p> <p><u>DRIVER INSTRUMENTATION AND CONTROLS</u></p> <p>The cab dash panel shall have black textured anti-glare surface. The gauges shall have red LED back lighting for enhanced visibility.</p> <p>The lighting control panel is to be located to the left side of the instrument panel. This panel shall have a black textured anti-glare surface. The lighting control panel shall include the following:</p> <p>Headlight control switch Dash rheostat for instrumentation lighting control Wiper and washer control switches</p> <p>The engine control panel is to be located beneath the instrument panel on the driver's right hand side. The panel shall have a black textured anti-glare surface. The engine control panel shall include the following:</p> <p>Keyless ignition switch with a green pilot light</p> <p><u>AUDIBLE TURN SIGNAL REMINDER</u></p>		

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	Yes	No
<p>There shall be an audible alarm that shall sound when the turn signal remains flashing for a distance greater than one mile. The reminder shall not sound when the hazard lights are operating.</p> <p><u>AUDIBLE LIGHTS ON REMINDER</u></p> <p>There shall be an audible alarm that shall sound when the headlight switch is left in the on position and the ignition is off. The alarm shall self cancel after 2 minutes of operation.</p> <p><u>AUDIBLE PARKING BRAKE REMINDER</u></p> <p>There shall be an audible alarm that shall sound when the parking brakes are NOT set and the ignition is turned off. This alarm shall self cancel after 2 minutes.</p> <p>The Parking Brake reminder shall sound an audible alarm when the parking brakes are set and an indicated speed of over two miles per hour occurs.</p> <p><u>SPEEDOMETER ACTIVATED IN PUMP MODE</u></p> <p>The speedometer and odometer shall be activated while in pumping mode.</p> <p><u>LOW FUEL LIGHT</u></p> <p>A "Low Fuel" warning light and alarm shall be installed in the dash message center. This light shall illuminate when the apparatus fuel level reaches 25% of the fuel remaining.</p> <p><u>TRANSMISSION OVERHEAT WARNING LIGHT</u></p> <p>A transmission oil temperature light with alarm shall be provided on the dash message center.</p> <p><u>LOW VOLTAGE WARNING</u></p> <p>A low voltage indicator light shall be installed on the dash message center. An alarm and the dash indicator light shall activate when the system voltage drops below 11.8 volts.</p> <p><u>AIR CLEANER RESTRICTION INDICATOR</u></p> <p>An air cleaner restriction indicator shall be installed in the driver's message center. The indicator shall provide visual warning when a high air restriction condition exists for a minimum of 4 seconds.</p> <p><u>LOW COOLANT WARNING</u></p> <p>Low coolant warning shall be accomplished through the engine electronics to provide driver warning via the engine stop warning light.</p> <p><u>INTERMITTENT WIPER CONTROL</u></p> <p>A rotary combination intermittent electric wiper / washer switch shall be provided on the left hand side of the driver's dash.</p> <p><u>CONTROL CENTER</u></p>		
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Milford Fire Department Specifications for a triple combination Stainless Steel Pumper	Bidder Complies	
	Yes	No
<p>Mounted on the doghouse there shall be a black ABS driver / officer control center. This area shall include various controls and functions that must be available to the driver and officer. On the top of the control center there shall be an access panel for maintenance and troubleshooting of devices mounted on the control center.</p> <p>The apparatus warning light switch panel shall be mounted on the control center immediately to right of the driver.</p> <p><u>SWITCH PANEL</u></p> <p>The switch panel shall be a Programmable Switch panel installed as a multiplexed node to provide input and output information to the apparatus electrical system. The panel shall have ergonomic rubber molded rocker type switches with backlighting.</p> <p>The panel shall include one (1) function as a master control switch to allow for preselection of response mode functions.</p> <p><u>PARKING BRAKE CONTROL VALVE</u></p> <p>The apparatus parking brake control valve shall be located on the doghouse mounted control center.</p> <p><u>WHITE WARNING LIGHT CUT-OUT SWITCH</u></p> <p>One switch position shall be provided to turn off all forward facing white warning lights for use in inclement weather.</p> <p><u>CUP HOLDERS</u></p> <p>There shall be two (2) recess mounted cup holders mounted on top of the doghouse console.</p> <p><u>MULTIPLEXED ELECTRICAL SYSTEM</u></p> <p>The apparatus shall be equipped with a Class 1 ES-Key Management System for complete control of the electrical system devices.</p> <p>The ES-Key system shall provide diagnostic capabilities for troubleshooting the electrical system of the apparatus.</p> <p><u>CHASSIS COLOR CODED WIRING</u></p> <p>ALL wiring shall be <u>COLOR CODED</u> and continuously marked with the circuit number and function.</p> <p>All wiring to be covered in nylon heat resistant loom rated at a minimum of 300 degrees F</p> <p>The chassis cab, engine and transmission shall be electrically bonded to the chassis frame rails with braided ground straps.</p> <p><u>ELECTRICAL SYSTEM CONNECTORS</u></p>		

Milford Fire Department Specifications for a triple combination Stainless Steel Pumper	Bidder Complies	
	Yes	No
<p>All multiple conductor electrical connections shall be made with Packard electrical connectors. The Packard connectors shall become mechanically locked when mated.</p> <p>All single wire terminations requiring special connectors with a ring or spade terminal shall be crimped, and wrapped with heat shrink tubing.</p> <p><u>INFORMATION DISPLAY MODULE</u></p> <p>The Information Display Module for displaying text, warnings and diagnostics. The information Display Module shall allow the Fire Department to access and change load management shedding priority and maintenance text listing the routine maintenance items and lubrication capacities on the apparatus.</p> <p><u>BACKUP CAMERA</u></p> <p>There shall be an Audiovox video system provided on the apparatus.</p> <p>The color monitor shall be an AOM713WP. The monitor for the back-up camera shall be mounted on top of the engine doghouse within view of the driver to aide in backing up the apparatus.</p> <p>The backup camera system shall be powered with the ignition power in the cab. Operation of the camera will be by the driver with the monitor controls.</p> <p><u>REAR CAMERA - B&W</u></p> <p>There shall be supplied black & white, heavy duty high resolution observation camera, Model VBCS150B. The camera shall have a black housing, built-in microphone, enhanced low light performance; the camera shall have a non corrosive mounting bracket and stainless steel hardware. The backup camera shall be mounted at the rear of the apparatus beneath the hosebed.</p> <p><u>LEFT& RIGHT REAR SIDE CAMERA - B&W</u></p> <p>There shall be supplied a black & white, heavy duty high resolution observation cameras, Model VBCSIDLCM. The camera shall have an aerodynamic chrome housing and be mounted on the side of the fenders ahead of the rear axle on the left & right sides of the vehicle.</p> <p><u>FIRE VULCAN – ORANGE DOGHOUSE</u></p> <p>Two (2) waterproof Streamlight model Fire Vulcan Series light, p/n 44401, shall be provided & installed on the doghouse. The light's vehicle-mountable direct-wire charging rack shall be wired direct to the batteries of the 12-volt DC system on the apparatus.</p> <p><u>FIRE VULCAN - ORANGE</u></p> <p>Four (4) waterproof Streamlight model Fire Vulcan Series light, p/n 44401, shall be provided. The light's vehicle-mountable direct-wire charging racks shall be wired directly to the batteries on the apparatus.</p> <p>The lights shall be mounted adjacent to each of the rear crew seat.</p> <p><u>12VDC TRIPLE POWER POINT</u></p>		

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	Yes	No
<p>A triple outlet 12 volt, cigarette lighter type, receptacle shall be provided and wired to direct battery power with the appropriate wire size and fuse. The power point sockets centered on the front area of the engine doghouse for use by the driver and/or officer.</p> <p><u>12VDC AUX POWER CIRCUITS</u></p> <p>Two (2) circuit protected 30 amp battery "hot" circuit, a circuit protected 30 amp battery switched circuit, and a ground circuit with the proper wire size to handle the current shall be provided.</p> <p>The radio / accessory power circuit shall terminate in the officer's seatbox for radio installation. & behind the driver seat</p> <p><u>RADIO ANTENNA MOUNT WIRING</u></p> <p>Two (2) NMO mounts shall be roof mounted, one on the officer's side and one on the drivers side of the cab. The antenna mounts shall be located approximately 34 inches from the front face of the cab and 18 inches from the cab side. The coax is to be routed in the cab officer's seat box.</p> <p><u>MAP BOX</u></p> <p>A map box with the bins open from the top, shall be installed on the engine doghouse, as far back as possible facing the officer. The map box shall be divided into 3 bins, inside dimensions being 12-3/4" long x 4-1/2" wide x 8" deep. The map box shall be constructed of .125 aluminum and shall be painted to match the cab interior.</p> <p><u>PUBLIC BROADCAST RADIO</u></p> <p>The cab shall be equipped with an AM/FM CD Stereo Radio with four ceiling mount recessed speakers. The radio shall also include a seven channel weather band.</p> <p><u>ROAD SAFETY KIT</u></p> <p>One (1) 2-1/2# ABC DOT Approved fire extinguisher shall be provided. . One (1) set of DOT approved hazard triangles shall be supplied with the chassis. They shall be stored in a plastic case. The fire extinguisher and triangles shall be shipped loose with the completed apparatus</p> <p><u>EXTERIOR GRAB HANDLES</u></p> <p>The cab shall have a bright anodized extruded aluminum 24" grab handles at each door position. Molded rubber gaskets shall be installed under the grab handles to protect the painted surface of the cab.</p> <p><u>CAB GRILLES</u></p> <p>A three dimensional silver finished stylized front grille shall be installed on the front cab face. The front grille shall have a radiator rock guard to assist in preventing damage to the radiator core.</p> <p><u>HEADLIGHT TRIM</u></p>		

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	Yes	No
<p>The cab shall be supplied with a stylized silver finished headlight trim. The band shall encompass the headlight housings and directional signals on each side of the cab grille and continue toward the front door hinge.</p> <p><u>CAB MUDDLAPS</u></p> <p>Mud flaps shall be installed behind the front tires. These mud flaps shall be a minimum of 22" wide to protect the underneath of the cab and body.</p> <p><u>CAB GROUND LIGHTING</u></p> <p>One (1) light shall be mounted beneath each door. All cab ground lights shall switchable and shall automatically activate when any cab door is opened.</p> <p><u>MIRRORS</u></p> <p>MOTO-MIRROR 16 1/2" X 7" stainless steel heated, remote control mirror heads shall be mounted on spring loaded retractable mirror arms and a 5-1/2" x 8.5" convex mirror head.</p> <p><u>CAB SIDE WINDOWS</u></p> <p>Two AS-2 tempered glass, fixed side windows, 26-1/2" high x 16" wide shall be furnished, one on each side behind the forward doors.</p> <p><u>REAR WINDOW SAFETY BARS</u></p> <p>There shall be a one inch stainless steel grab bar installed on each rear door. This bar is to be installed on the rear door frame even with the window in the down position to prevent firefighters from using the glass in the door for a handle.</p> <p><u>UNDER CAB ENGINE MAINTENANCE LIGHTS</u></p> <p>Two (2) engine maintenance lights shall be supplied beneath the cab. These lights shall illuminate automatically when the cab is tilted to the full tilt position.</p> <p><u>SIDE STAINLESS STEEL TRIM</u></p> <p>The cab shall be supplied with a side mounted polished stainless steel trim band. The bottom edge of the trim band shall line up with the bottom edge of the cab. This band shall be 2 inches in height and shall run from the front door hinges to the rear of the cab on each side.</p> <p><u>WHEEL WELL LINERS</u></p> <p>To reduce road splash and allow for easy cleaning, bolt in front wheel well liners are to be installed. Stainless steel material is to be used for the liner. The wheel well liners are to be a minimum of 22 inches in width.</p> <p><u>STAINLESS CAB FENDERETTES</u></p>		

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<p>To reduce road splash on the cab sides, polished stainless steel fenderettes shall be installed around each the wheel opening.</p> <p><u>EXTERIOR REAR WALL DIAMOND PLATE OVERLAY</u></p> <p>The cab exterior rear wall shall be covered with a single sheet of bright aluminum tread plate to protect the back of the cab from scratches.</p> <p><u>CAB TILT SYSTEM</u></p> <p>The cab shall tilt a minimum of 45 degrees for ease of serving. Tilting shall be accomplished by means of a tilt pump connected to two (2) heavy duty lift cylinders. It shall be equipped with a positive locking mechanism to hold the cab in the full tilt position. Release of the service lock shall be by means of a pull type cable assembly. The cylinders shall have a velocity fuse at the base to prevent the cab from falling in the event of a hydraulic hose failure. The cab shall be capable of tilting 90 degrees for major engine service, if necessary.</p> <p>The cab shall have a three (3) point cab locking system. To prevent undue stresses in the cab, the cab mounting shall incorporate a five (5) point load mounting system.</p> <p>The rear cab lock shall be center point mounted to prevent normal twist of the chassis from affecting the cab mounting, cab structure and windshield areas of the cab. This rear cab lock shall be mounted on a chassis crossmember to provide a stable platform for the locking system. This locking system shall automatically open prior to the cab tilting and automatically relatch when the cab is lowered completely into the travel position.</p> <p>An electric-over-hydraulic cab tilt pump shall be supplied. This pump shall have a remote control for cab tilting operation. The control shall be "safety-yellow" in color.</p> <p><u>CAB TILT INTERLOCK</u></p> <p>The cab lift system shall have a cab tilt interlock. The cab tilt shall not be able to be activated unless the master battery switch is in the on position with the parking brake set and the ignition is in the off position.</p> <p><u>CHASSIS PAINT</u></p> <p>The frame and running gear shall be painted gloss black enamel. The air system piping and electrical harnesses shall not be installed in the frame at the time of the frame painting. This shall insure complete coverage of paint behind those areas, as well as to insure that the air piping and wiring harnesses do not have paint applied to them, hindering troubleshooting.</p> <p><u>INTERIOR FINISH</u></p> <p>The interior of the cab shall be painted with spatter paint, textured gray in color.</p> <p>The following interior components shall be black in color:</p> <ul style="list-style-type: none"> • Sun visors 		

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<ul style="list-style-type: none"> • Cab interior overhead console • Doghouse console <p>The interior headliner, rear wall, of the cab shall be gray in color.</p> <p>The interior flooring material of the cab shall be black in color.</p> <p>The doghouse covering material in the cab shall be black in color.</p> <p>The dash housing, doghouse console; and the officer's console shall be black in color.</p> <p><u>CAB EXTERIOR FINISH</u></p> <p>The apparatus shall be finished in a two tone paint scheme. Final paint break and designs shall be determined at the preconstruction conference. Final finish of the cab shall be to fire apparatus standards; exhibiting excellent gloss durability and color retention properties.</p> <p><u>PREPARATION&PROCESS</u></p> <p>Each bidder shall describe their paint process in detail.</p> <p><u>FINISH AND COLOR COATS</u></p> <p>DuPont Imron paint will be used for the cab exterior material.</p> <p><u>7 YEAR CAB PAINT LIMITED WARRANTY</u></p> <p>The bidder, shall warrant only to the Fire Department who places the motor vehicle in service that the painted cab (the "cab"), shall under normal use and with normal maintenance remain free from paint defects for a period of seven (7) years.</p> <p><u>STRIPE</u></p> <p>A 1/8" wide black paint pin stripe shall be added to the cab, two tone paint scheme. This stripe shall be applied at the paint break line.</p> <p><u>DRIVER'S SEATING POSITION</u></p> <p>The seat shall be H.O. Bostrom, air ride suspension, high back seat with fore and aft slide adjustment. A red 3-point, shoulder harness type seat belt shall be supplied for the seat.</p> <p><u>OFFICER'S SEATING POSITION</u></p> <p>The seat shall be H.O. Bostrom, Tanker Series Self-Contained Breathing Apparatus (SCBA) type seat with a fixed bottom cushion and a pivoting head rest. The seat shall contain a SCBA filler pad for when the bottle is not in use.</p> <p>A red 3-point, shoulder harness type seat belt shall be supplied for the seat.</p> <p>There shall be a H.O. Bostrom SecureAll™ self-contained breathing apparatus bracket mounted into the seat cavity.</p>		
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<p><u>CREW AREA - REAR FACING LEFT& RIGHT OUTBOARD SEAT POSITIONS</u></p> <p>The seats shall be H.O. Bostrom, Tanker Series Self-Contained Breathing Apparatus (SCBA) type seats with a fixed bottom cushion and a pivoting head rest. The seats shall contain a SCBA filler pad for when the bottle is not in use.</p> <p>Red 3-point, shoulder harness type seat belt shall be supplied for the seats.</p> <p>There shall be H.O. Bostrom SecureAll™ self-contained breathing apparatus brackets mounted into the seat cavities.</p> <p><u>CREW AREA - FORWARD FACING LEFT &RIGHT INBOARD SEAT POSITION</u></p> <p>The seats shall be H.O. Bostrom, Tanker Series Self-Contained Breathing Apparatus (SCBA) type seats with a fixed bottom cushion and a pivoting head rest. The seat shall contain a SCBA filler pads for when the bottle is not in use.</p> <p>Red 3-point, shoulder harness type seat belt shall be supplied for the seats.</p> <p>There shall be H.O. Bostrom SecureAll™ self-contained breathing apparatus brackets mounted into the seat cavities.</p> <p>The seats shall be black in color and covered in Durawear™,</p> <p><u>FORWARD FACING SEAT RISER AND STORAGE TRAY</u></p> <p>The center forward facing seat(s) shall be installed on a powder coated aluminum riser. Under the seat riser there shall be an aluminum roll-out tray designed to provide safe storage for forcible entry tools in the crew area. This tray, lined with Dri-Deck, shall have a diamond plate front with a D-ring handle to provide positive lock in the closed position.</p> <p><u>SEAT BELT WARNING LABELS</u></p> <p>The cab shall be equipped with two (2) seat belt warning labels. These labels are to be in full view of the occupants in the seated position.</p> <p><u>VEHICLE DATA RECORDER</u></p> <p>Apparatus shall be equipped with a Class1 “Vehicle Data Recorder and Seat Belt Warning System”</p> <p><u>SEAT BELT WARNING SYSTEM</u></p> <p>There shall be a seat belt indicator system supplied in the cab. The indicator system shall indicate seat belt use for each individual seating position when the seat is occupied, the seat belt remains unfastened and the parking brake is released.</p> <p>A display panel shall be supplied in the dash area. The panel shall have an audible indicators and a red light display to indicate that a seat belt has not been fastened.</p> <p><u>FRONT BUMPER</u></p> <p>A 12" high heavy-duty 10 gauge, polished stainless steel, wrap around, 2-rib front bumper shall be</p>		

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<p>provided the full width of the cab.</p> <p><u>BUMPER EXTENSION</u></p> <p>The front frame extension shall be bolted directly to the main rail. The completed apparatus must be able to be lifted at the front bumper without structural damage to the front extension for towing of a disabled vehicle. The front bumper face shall extend 24 inches ahead of the front face of the cab skin.</p> <p><u>FRONT SUCTION PIPING FOR SWIVEL</u></p> <p>A 5" front suction pipe shall be provided a copper vent line from the high to the low point shall be installed for purging air during suction operation.</p> <p><u>FRONT SUCTION PIPING SWIVEL</u></p> <p>An Elkhart model 348, 6" NHT male brass outlet suction elbow with a removable screen shall be provided for the front suction piping. The suction swivel shall be painted job color.</p> <p><u>LONG HANDLE CAP</u></p> <p>The front suction inlet shall be equipped with a chrome plated, long handled, cap</p> <p><u>STYLE 7 ¾" DRAIN VALVE</u></p> <p>An Akron Brass Style 7, ¾" Drain Valve shall be installed in the front suction intake pipe. There shall be a tag on the front bumper labeled 'DRAIN' adjacent to the location of the front suction drain.</p> <p><u>TOW HOOKS</u></p> <p>Two (2) chromed tow hooks shall be provided and shall be attached directly to the front frame extension under the bumper.</p> <p><u>GRAVELSHIELD</u></p> <p>A gravelshield shall be installed filling the area above the bumper extension rails. This gravelshield shall be constructed of .125" thick NFPA non-skid, bright, non skid, aluminum treadplate.</p> <p><u>CENTER HOSEWELL</u></p> <p>A hosewell shall be installed in the center of the gravelshield. The hosewell shall be constructed of .125" aluminum. The upper edges of the hose well shall be tapered to allow for smooth, snag free removal of the hose. The hosewell shall be 26-1/2" wide x 12" deep x 18"front to back. The hosewell shall be mounted between the bumper extension rails.</p> <p><u>OPEN GRATE MAT - HOSEWELL</u></p> <p>The floor of the hosewell shall be covered with black colored, open grate mat for improved ventilation.</p>		
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	Yes	No
<p><u>LEFT HOSEWELL</u></p> <p>A hose well shall be installed in the left side of the gravelshield. This hose well shall be constructed of .125" aluminum. The well shall be mounted outboard of the left side extension rail.</p> <p><u>VINYL HOSEWELL COVERS</u></p> <p>Vinyl covers shall be provided for the hosewells. The vinyl covers shall be permanently attached at the front of the hosewell next to the front bumper. The end flap of the cover shall be fastened for easy deployment with a gloved hand The hosewell covers shall be Brilliant Red in color.</p> <p><u>AIR HORNS</u></p> <p>Dual stutter tone air horns shall be recessed into the front bumper, one each side.</p> <p>To eliminate inadvertent operation the chassis air horns shall be operable only when the battery selector and ignition switch are in the "ON" position. The chassis air horns shall be controlled by a lanyard with a 'Y-chain'. The lanyard chain shall be mounted to the center of the overhead console within reach of both the driver and officer and shall terminate at the cab center.</p> <p><u>AUX AIR HORN OPERATION</u></p> <p>The air horn and the electric horn shall be sounded simultaneously by depressing the horn button in the steering wheel.</p> <p><u>ELECTRONIC SIREN</u></p> <p>A Federal Signal 100 watt electronic siren control with microphone, model #PA300, shall be provided.</p> <p>The siren control shall be mounted on top of the engine doghouse within reach of the driver and officer.</p> <p><u>Q2B MECHANICAL SIREN</u></p> <p>A FEDERAL Q2B mechanical siren shall be mounted on top of the gravel shield on the left (driver's) side.</p> <p><u>MASTER WARNING LIGHT CONTROL</u></p> <p>To eliminate inadvertent operation the Q2B shall be operable only when the Master Warning Light switch is in the "ON" position. A momentary rocker switch shall be provided in the driver's switch panel for operation of the siren brake. A second momentary switch shall be provided in easy reach of the officer for operation of the siren brake.</p> <p><u>Q2B SIREN CONTROL SWITCHES</u></p> <p>One (1) foot switch for the siren shall be provided on the left side of the driver's side cab floor and the one (1) button switch on the officer's side. The officer's button switch shall have a red rubber boot and</p>		

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<p>be clearly labeled 'Siren'.</p> <p><u>SIREN SPEAKER</u></p> <p>There shall be one polished aluminum 100 watt speaker provided. The speaker shall be recessed into the right side of the front bumper immediately outboard of the chassis frame rails.</p> <p><u>CHASSIS OPERATOR'S MANUAL</u></p> <p>One (1) Operator's Manual w/Parts List shall be provided with the chassis.</p> <p>An electronic Electrical System Manual shall be provided. - This manual shall provide complete wiring schematics for the vehicle. - The manual shall be provided with diagrams of the vehicle showing the wiring harness routing within the vehicle. Each of these diagrams shall include the connectors between the harnesses that provide a hyperlink to a drawing of the actual connector where pin functions can be examined. Schematics for each system of the vehicle shall be provided with hyperlinks to the connectors for pin designations and to the vehicle drawings for harness location within the vehicle.</p> <p>An electronic Air System Manual shall be provided. This manual shall provide complete air system schematics for the vehicle. The manual shall be provided with diagrams of the vehicle showing the air tubing routing within the vehicle. - Schematics for each system of the vehicle shall be provided with hyperlinks to the tanks and valves and to the vehicle drawings for exact location within the vehicle.</p> <p><u>PUMP COMPARTMENT</u></p> <p>The pump compartment shall be separate from the hose body and compartments so that each may flex independently of the other. It shall be a fabricated assembly of stainless steel tubing, angles and channels, which does not support the fire pump and or running boards. The pump compartment shall be mounted onto the chassis through rubber biscuits in a four point pattern to allow for a chassis frame twist. Pump compartment, pump, plumbing and gauge panels shall be removable from the chassis in a single assembly and shall have an approximate width of 47". The pump compartment shall be a modular design. A stainless steel framework shall provide the support for the mounting of the pump lower panels.</p> <p><u>RUNNING BOARDS</u></p> <p>The running boards shall be separate from the hose body, compartments, and pump compartment so that each may flex independently of the other and to allow water to flow freely away from the running board area. Field service of the running board without major repairs to the pump compartment in the event of an accident is required.</p> <p>The running board step surface shall be covered in Laser Grip stainless steel meeting the current revision of NFPA 1901 for step requirements.</p> <p><u>DUNNAGE COMPARTMENT OVER PUMP</u></p> <p>There shall be a dunnage compartment furnished on top of the pump module. The floor shall be bolted in place and removable for access to the fire pump components.</p>		
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<p><u>DUNNAGE COMPARTMENT GRABRAILS</u></p> <p>Two (2) bright anodized extruded aluminum grab rails shall be provided, one (1) each side of the pump house on the side of the dunnage compartment just below the top edge mounted horizontal to provide easy access to the dunnage compartment. Molded rubber gaskets shall be installed under the grab handles to protect the surface of the compartment.</p> <p><u>PUMP COMPARTMENT WORK LIGHT</u></p> <p>The pump compartment shall have one Model 40 clear work light to provide illumination of the pump compartment. The light shall have a weather resistant, toggle style on/off switch located inside the pump compartment adjacent to the left service door area. The power for the pump module light shall be switched thru the battery master switch.</p> <p><u>PUMP HOUSE HEATER</u></p> <p>A 53,500 BTU, automotive type hot water heater shall be provided and mounted in the fire pump compartment. The heater shall be connected to the truck engine coolant system and have shutoff valves in both the feeder and return lines. Heater shall include a 12 volt fan with a switch located at the pump operator's panel.</p> <p><u>PUMP SERVICE ACCESS REQUIREMENTS</u></p> <p>It is the opinion that service access to the pump, valves, gauges and controls are of the utmost importance. Special consideration shall be taken when evaluating the pump module design of the bidder. Pump panels that offer little to no access without the use of tools shall not be considered compliant with this requirement.</p> <p><u>PUMP CONTROL PANELS</u></p> <p>All pump controls and gauges shall be located at the left (street) side of the apparatus and properly identified. The layout of the pump control panel shall be ergonomically efficient and systematically organized. The pump operator's panel shall be removable in two (2) main sections for ease of maintenance. The pump and gauge panels shall be constructed of 12-gauge stainless steel. The gauge panel shall contain a panel for mounting of all instruments, engine monitoring system, and pressure control system.</p> <p>The gauge panel shall be a double panel door design to protect in the enclosed door all gauge tubing, switch, and control wiring. The gauge panel shall be made of 12-gauge stainless steel. There shall be an access panel in the inner panel easily removable for control or gauge service or replacement.</p> <p>The gauge panel door shall be designed as an opening pump house service door on the street (left) side of the pump house. This gauge panel door shall provide an opening minimum size of 41 inches wide by 14 inches in height.</p> <p>The lower section of the panel shall contain all inlets, outlets, and drains. All push-pull valve controls shall have quarter turn locking control rods with chrome plated tee handles. Guides for the push-pull control rods shall be chrome plated zinc castings securely mounted to the pump panel. Push-pull valve controls shall be capable of locking in any position. The control rods shall pull straight out of the panel and shall be equipped with universal joints to eliminate binding.</p>		
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<p>There shall be an opening pump house service door on the curb (right) side of the pump house. This door shall provide an opening minimum size of 41 inches wide by 14 inches in height.</p> <p><u>PUMP PANEL IDENTIFICATION TAGS</u></p> <p>The identification tag for each valve shall be recessed in the face of the control handle. All discharges shall have color-coded plastic identification tags, with each discharge having its own unique color. Color-coding shall include the labeling of the outlet and the drain for each corresponding discharge.</p> <p><u>PUMP PANEL FINISH</u></p> <p>All stainless panels used in the construction of the pump house shall have a brushed finish.</p> <p><u>CONTROLS AND GAUGES</u></p> <p>The following shall be provided on the pump and gauge panels in a neat and orderly fashion. The gauge panel shall include the following:</p> <p>Enfo 3 Engine message center</p> <p>Class 1 pressure governor</p> <p><u>MASTER GAUGES</u></p> <p>The pump master vacuum and pressure gauges shall be 4-1/2" in diameter with white dial face gauges with black lettering and markings.</p> <p>The master vacuum gauge shall be a compound style gauge with a vacuum/pressure range of -30" - 0 - 400 psig with the dial face of the gauge labeled in black INTAKE.</p> <p>The master pressure gauge shall be provided with a range of 0-400 psig and the dial face of the gauge labeled in black DISCHARGE.</p> <p>The gauges shall be freeze proof, fluid filled with pulse and vibration dampening. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage.</p> <p><u>MASTER GAUGE TEST PORTS</u></p> <p>Adjacent to each master gauge there shall be a pressure tap to provide simultaneous reading of the vacuum and pressure exerted on the individual gauge.</p> <p><u>PRESSURE GAUGES</u></p> <p>Each line pressure gauge shall be mounted immediately above the control for the corresponding valve. The individual line pressure gauges for the discharges shall be 2-1/2" in diameter with white dial face gauges with black lettering and markings. The gauges shall be a compound style gauge with a vacuum/pressure range of 0 - 400 psig.</p> <p>The gauges shall be freeze proof, fluid filled with pulse and vibration dampening. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage. All line pressure gauges shall be mounted adjacent to the corresponding discharge control tee handles.</p>		
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<p><u>PUMP OPERATION HOURMETER</u></p> <p>A pump hourmeter shall be supplied. The hourmeter shall be environmentally sealed to prevent moisture from entering the gauge. The face shall provide a display of the total cumulative hours of pump engagement. The hourmeter shall be protected by being located inside the pump module.</p> <p><u>PUMP PANEL LIGHTING</u></p> <p>The pump operator's panels shall be supplied with a LED light system. LED strip lights with a stainless steel hood shall be mounted across the top of the pump panel gauges and controls as well as the right side panel.</p> <p>All pump module lighting shall illuminate when the parking brake is engaged.</p> <p><u>DRAIN DISCHARGES</u></p> <p>The 3/4 inch drain valves shall be equipped with 90-degree fittings with 3/4" I.D. tubing to direct the discharge water toward the ground.</p> <p><u>AIR HORN ACTIVATION SWITCH</u></p> <p>A switch shall be located on the pump panel to activate the chassis air horn. The switch shall be a momentary pushbutton type switch with a red cover. The switch shall be supplied with the proper identification label.</p> <p><u>WATER TANK LEVEL GAUGE</u></p> <p>The apparatus shall be equipped with a Class 1 "Inteli-Tank" Tank Level Gauge for indicating water level.</p> <p><u>HIGH VISIBILITY WATER TANK LEVEL INDICATOR - ADDITIONAL</u></p> <p>There shall be in addition to the Class 1 water tank level gauge on the pump operator's panel, a Whelen PSTANK LED high visibility water level indicator supplied one (1) on each side of the cab located beneath the cab side rain gutter behind the rear cab door. There shall also be one supplied and installed on the rear of the apparatus.</p> <p><u>PUMP MANUFACTURER AND MODEL</u></p> <p>The pump shall be a Hale Q-MAX model midship pump.</p> <p><u>PUMP GEARBOX</u></p> <p>The gearbox shall be assembled and tested at the pump manufacturer's factory.</p> <p><u>PUMP RATING AND TEST REQUIREMENTS</u></p> <p>The pump shall be of a size and design to mount on the chassis rails of custom truck chassis, and have the capacity of 2000 gallons per minute NFPA 1901 rated performance. The pump shall deliver</p>		

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	Yes	No
<p>the percentage of rated discharge at pressures indicated below:</p> <p>100 percent of rated capacity at 150 pounds net pressure 70 percent of rated capacity at 200 pounds net pressure 50 percent of rated capacity at 250 pounds net pressure 100 percent of rated capacity at 165 pounds net pressure</p> <p>The entire pump shall be assembled and tested at the pump manufacturer's factory. The pump shall be driven by a driveline from the truck transmission. The engine shall provide sufficient horsepower and RPM to enable pump to meet and exceed its rated performance.</p> <p><u>PUMP COOLING LINE</u></p> <p>A 3/8" cooling line shall be installed to recirculate water from the pump back through the pump transfer case, to cool the pump during prolonged pumping operations. The cooling line shall be controlled at the operator's position with a valve.</p> <p><u>AIR PRIMER</u></p> <p>The pump shall be furnished with an air driven venturi priming system. The system shall be plumbed to the chassis air. A switch to control the air primer shall be provided on the pump operator's panel.</p> <p><u>PNEUMATIC PUMP SHIFT</u></p> <p>The pump shift shall be air operated and shall incorporate an air double action piston to shift from road to pump and back. The in-cab operating valve uses a spring loaded locking collar to prevent it from accidentally being moved. The pump shift control assembly shall incorporate an indicating light system, which will notify the operator when the shift has been completed to PUMP and when the chassis transmission is in correct pumping gear. The switch that activates the lights must be mounted on the pump transmission and positioned so that the pump shift arm activates the switch only when the shift arm has completed its full travel into PUMP position.</p> <p><u>PACKING SEAL</u></p> <p>The fire pump shall be provided with a manually adjusted pump packing seal.</p> <p><u>ANODE SYSTEM</u></p> <p>To reduce the effect of galvanic action the pump shall be equipped with two zinc (2) anodes. One anode is to be installed on the inlet (suction) side of the system and one anode is to be installed on the pressure (outlet) side of the system.</p> <p><u>MASTER DRAIN</u></p> <p>The apparatus shall be equipped with a Manual Master Pump Drain for draining of the lower pump cavities, volute and selected water-carrying lines and accessories.</p> <p><u>PUMP CERTIFICATION TEST</u></p> <p>The apparatus shall be certified to the requirements of NFPA 1901 prior to delivery of the completed</p>		

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	Yes	No
<p>apparatus. The certificate shall be furnished with the apparatus on delivery.</p> <p><u>PUMP MANUALS</u></p> <p>Two (2) sets of fire pump service and operation manuals shall be provided with the completed apparatus.</p> <p><u>LEFT SIDE STEAMER INLET</u></p> <p>There shall be one (1) steamer inlet furnished on the left side pump panel. The suction inlet shall have 6" NST thread. The suction inlet shall have a removable strainer provided inside the external inlet.</p> <p><u>HALE MIV VALVE - LEFT SIDE</u></p> <p>There shall be a full flow Hale MIV-M valve furnished on the driver's side pump panel. With a Task Force Tips pressure relief valve. The discharge side of the intake relief valve shall be plumbed to the right side below the running boards, away from but, visible to the pump operator, and shall terminate with an unthreaded pipe. The adjustment control shall be located behind the street side pump panel.</p> <p><u>LARGE DIAMETER CAP</u></p> <p>A six (6) inch chrome plated cap with long handles shall be supplied. The cap shall be capable of withstanding 500 PSI and be trimmed with the apparatus manufacturer's logo in the center of the cap.</p> <p><u>RIGHT SIDE STEAMER INLET</u></p> <p>There shall be one (1) steamer inlet furnished on the right side pump panel. The suction inlet shall have 6" NST thread. The suction inlet shall have a removable strainer provided inside the external inlet.</p> <p><u>HALE MIV VALVE - RIGHT SIDE</u></p> <p>There shall be a full flow Hale MIV-E valve furnished on the officer's side pump panel. With a Task Force Tips pressure relief valve shall be provided. The discharge side of the intake relief valve shall be plumbed to the right side below the running boards, away from but, visible to the pump operator, and shall terminate with an unthreaded pipe. The adjustment control shall be located behind the street side pump panel.</p> <p>One (1) 6" NST Female swivel thread with long handle 30-degree down to 4" Storz hard coated aluminum adapter shall be provided. One (1) 4" Storz cap and chain with a suction gasket shall be provided.</p> <p><u>SUCTION PRIMER/BLEEDER SELECTOR VALVE</u></p> <p>A selector valve shall be furnished, piped directly to the pump primer. The selector valve shall divert the suction from the pump primer to the suction inlets listed below The selector valve control shall be located on the pump operator's panel.</p> <p>A separate 3/4" ball valve shall be provided with control on the pump operator's panel. When open this valve shall allow bleeding the air from the selected inlet line when connecting to a pressurized</p>		
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<p>water source. When closed the valve shall allow normal priming operations. The primer /bleeder selector valve shall be plumbed to the left side gated suction, right side gated suction, and the front gated suction.</p> <p><u>GATED FRONT SUCTION</u></p> <p>A front suction intake shall be provided.</p> <p><u>SUCTION MID DRAIN VALVE</u></p> <p>An Akron Brass Style 7, 3/4" Drain Valve shall be installed in the mid section of the front intake pipe. The push-pull control shall be extended to the side of the apparatus beneath the running board area. There shall be a tag adjacent to the control labeled 'DRAIN'.</p> <p><u>ELECTRICALLY OPERATED FRONT SUCTION VALVE</u></p> <p>The suction valve shall be electrically operated and have control switch at the pump operator's panel. The control switch shall have a colored identification label. There shall be a three light indicator provided with one (1) green, one (1) yellow and one (1) red LED to indicate the valve position.</p> <p><u>LEFT SIDE AUX INTAKE</u></p> <p>There shall be an 21/2" intake located on the left (street) side rear of the pump and shall contain: a 2-1/2" quarter-turn swing-out valve. a 2-1/2" NST female swivel that extends through the pump panel. a push-pull type control handle located adjacent to the valve and a 2-1/2" chrome plated rocker lug plug with chain.</p> <p><u>LEFT SIDE DISCHARGE 2.5" #1</u></p> <p>The forward discharge on the left (street) side of the pump panel shall contain: A 2-1/2" discharge a 2-1/2" quarter-turn swing-out valve, a chrome plated 30-degree discharge elbow with 2-1/2" NST male threads that extends through the pump panel and a chrome plated, rocker lug cap with lug vent and chain shall be furnished.</p> <p><u>LEFT SIDE DISCHARGE 2.5" #2</u></p> <p>The second from the forward discharge on the left (street) side of the pump panel shall contain: A 2-1/2" discharge a 2-1/2" quarter-turn swing-out valve, a chrome plated 30-degree discharge elbow with 2-1/2" NST male threads that extends through the pump panel and a chrome plated, rocker lug cap with lug vent and chain shall be furnished.</p> <p><u>RIGHT SIDE DISCHARGE 3" #3</u></p> <p>The forward discharge on the right (curb) side of the pump panel shall contain: A 3" discharge a 3" quarter-turn swing-out valve, a chrome plated 30-degree discharge elbow with 3" NST male threads that extends through the pump panel and a 3" NST Female Rigid Rocker to 4" Storz hard coated aluminum adapter and One (1) 4" Storz cap and chain with a suction gasket shall be provided.</p> <p><u>RIGHT SIDE DISCHARGE 3" #4</u></p> <p>The second from the forward discharge on the right (curb) side of the pump panel shall contain: A 3"</p>		

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<p>discharge a 3" quarter-turn swing-out valve, a chrome plated 30-degree discharge elbow with 3" NST male threads that extends through the pump panel and a 3" NST Female Rigid Rocker to 4" Storz hard coated aluminum adapter and One (1) 4" Storz cap and chain with a suction gasket shall be provided.</p> <p><u>REAR PRECONNECT - RIGHT SIDE</u></p> <p>There shall be one (1) 2-1/2" discharge outlet located on the passenger side rear of the body below the hose bed. The discharge outlet shall be plumbed with 2-1/2" ID, Schedule 40 stainless steel pipe and high pressure hose and have a 2-1/2" quarter-turn, swing out valve with control on pump operator's panel. There shall be a chrome plated 2-1/2" NST adapter that extends through the rear of the body. The discharge shall be provided with a chrome plated 30-degree discharge elbow and a chrome plated, 2-1/2" rocker lug cap with lug vent and chain .</p> <p><u>FRONT JUMPLINE</u></p> <p>A 1-1/2" discharge shall be located at the front bumper. The front discharge shall be plumbed using 2" stainless steel pipe and wire reinforced high pressure hose coupled with stainless steel fittings. The front discharge outlet shall have a 2" quarter-turn swing out valve with control on pump operator's panel. The front discharge shall be provided with a 1-1/2" polished stainless steel, 90-degree swivel adapter with 1-1/2" NST male outlet. The jumpline swivel shall be located on top of the gravelshield adjacent to the hosewell. One (1) 3/4" automatic drain valve shall be supplied. For the front jumpline plumbing</p> <p><u>DELUGE RISER</u></p> <p>A 3" diameter deluge riser shall be installed above the pump. The deluge outlet shall be plumbed with a 3" quarter-turn, swing out valve and 3" ID, Schedule 40 stainless steel piping. Deluge outlet shall have control on pump operator's panel.</p> <p>A 1/4 turn 3/4 drain valve shall be installed. The valve shall be nickel plated with 3/4" NPT female inlet and outlet thread.</p> <p>The deluge piping shall terminate with an NPT male thread. A cap plug is to be provided on the end of the piping to protect the threads.</p> <p>The 3" discharge outlet shall have a 3" slow close quarter-turn swing out valve. Control of outlet shall be accomplished using a manual, locking control on pump operator's panel.</p> <p><u>PUMP DUNNAGE AREA DIMENSIONS</u></p> <p>The area behind of the crosslays shall be the dunnage area of the pump house. This area shall be enclosed with approximate dimensions of 68" wide x 19" deep x 43" front to back.</p> <p><u>ELECTRIC CORD REEL</u></p> <p>One (1) Hannay model ECR1616-17-18 electric rewind cord reel(s) shall be supplied and installed in the dunnage compartment. This reel shall be equipped with Two hundred feet (200') of 12/3 SO (black) cord and a HS-3 ball stop. The cord reel wiring shall terminate with a NEMA L5-15R, 15 amp twistlock female receptacle.</p>		

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<p><u>ELECTRICAL CORD JUNCTION BOX</u></p> <p>One (1) Akron junction box, model EJB shall be provided. The junction box is to be powder coated safety yellow and be provided with rubber feet on the bottom of the box.</p> <p>One (1) Akron yellow powder coated mounting bracket, model EJB-VMT is to be shipped loose with the apparatus.</p> <p>There shall be a one (1) foot long power inlet cord on the junction box terminated with a L5-15P connection to mate with the cord reel receptacle.</p> <p>There shall be Four (4) Duplex 5-20 125 Volt AC straight blade outlet with spring loaded cover. Located within the junction box.</p> <p><u>HOSE STORAGE REEL</u></p> <p>A Hannay model EC20-23-24-8-RT painted steel hose reel with electric rewind shall be furnished. The reel shall be dry with no piping and shall have a capacity of at least 300' 1 ½ "hose. The hose reel shall be mounted in the pump module dunnage compartment.</p> <p><u>TRIPLE SPEEDLAY HOSEBED</u></p> <p>The speedlays shall be arranged at the front of the pump module. The #1 speedlay toward the top of the speedlay assembly and the #2 speedlay immediately below the first and the #3 speedlay on the bottom. The speedlays shall be 12" wide. The top of the speedlay unit shall have a brushed stainless steel side filler panel that extends from the top of the speedlay unit to the height of the dunnage side panel.</p> <p><u>#1& 3 SPEEDLAY</u></p> <p>The top & bottom speedlays shall be equipped with. The speedlays shall be plumbed with 2" Schedule 40 stainless steel high pressure pipe. 2" quarter turn ball valves shall be used to control water flow. The outlets shall be equipped with a 2" polished stainless steel 90 degree swivel with 1-1/2" male NST thread located in the hosebeds.</p> <p>These speedlay beds shall be capable of carrying two hundred fifty feet (250') of 1-3/4" double jacketed hose. The speedlays hosebeds shall have inside dimensions of 10" wide x 10-1/2" tall x 72" wide. The speedlay valve controls shall be mounted on the operator's panel. 1/4 turn drain valves shall be installed. The valves shall be nickel plated with 3/4" NPT female inlet and outlet thread.</p> <p><u>MIDDLE SPEEDLAY</u></p> <p>The middle speedlay shall be equipped with a 2-1/2" male NST outlet. The speedlay shall be plumbed with 2-1/2" Schedule 40 stainless steel high pressure pipe. A 2-1/2" quarter turn ball valve shall be used to control water flow. The outlet shall be equipped with a 2-1/2" polished stainless steel 90 degree swivel with 2-1/2" male NST thread located in the hosebed. This speedlay bed shall be capable of carrying two hundred feet (200') of 2-1/2" double jacketed hose. The speedlay hosebed shall have inside dimensions of 10" wide x 10-1/2" tall x 72" wide. The speedlay valve control shall be mounted on the operator's panel. A 1/4 turn drain valve shall be installed. The valve shall be nickel plated with 3/4" NPT female inlet and outlet thread.</p>		
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	Yes	No
<p>The front side of the speedlay assembly shall have a brushed stainless front cover.</p> <p><u>HOSE TRAY</u></p> <p>Three (3) removable aluminum hose tray(s) shall be provided for the speedlay hose beds.</p> <p><u>SPEEDLAY HOSE GUIDES</u></p> <p>Poly guides shall be provided at the sides, upper and lower edges of each speedlay opening on both sides of the apparatus body to protect the hose and couplings.</p> <p><u>TRIPLE SPEEDLAY HOSEBED COVER</u></p> <p>A vinyl coated nylon hosebed cover shall be provided over the speedlay hosebeds, complete with "Lift-A-Dot" fasteners. The vinyl speedlay end flaps shall be Midnight Black in color.</p> <p><u>ELKHART BALL VALVES</u></p> <p>All discharge ball valves shall be manual control 1/4 turn Elkhart heavy duty valves with heavy ball unless specified otherwise.</p> <p><u>TANK TO PUMP</u></p> <p>The tank to pump piping shall be capable of delivering water to the pump at a rate of five hundred (500) gallons per minute. This flow shall be sustained while pumping to a minimum of 80% of the certified tank capacity with the apparatus on level ground. No exceptions are allowed to this section.</p> <p>The tank to pump line shall run straight, without elbows, from the pump to the front face of the water tank and down into the tank sump. A rubber coupling shall be included in this line to prevent damage from vibration or chassis flexing. The tank to pump line shall be plumbed with 3" Schedule 40 stainless steel high pressure pipe.</p> <p>A 3" ball valve shall be furnished from the tank to the pump. A built-in check valve shall be provided in the tank to pump supply line to prevent the unintentional back filling of the water tank through the line.</p> <p><u>TANK REFILL</u></p> <p>A 2" tank refill line shall be provided using a 2" quarter-turn full flow ball valve controlled from the pump operator's panel with a manual locking handle. The tank refill shall be plumbed with high pressure flexible piping stainless steel couplings.</p> <p><u>HEAT EXCHANGER DISCHARGE</u></p> <p>A gated discharge line shall be installed to provide water from the fire pump to the heat exchanger to assist in engine cooling during pumping operations. The heat exchanger line shall be controlled at the pump operator's panel with a Class 1 valve.</p> <p><u>WATER TANK CONSTRUCTION</u></p>		

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<p>The tank shall have a rated capacity in U.S. gallons, complete with lifetime warranty. The tank manufacturer shall mark the tank and furnish notice that indicates proof of warranty.</p> <p>The tank shall be constructed of 1/2" thick Polyprene & Mac226 sheet stock. This material shall be non-corrosive stress relieved thermoplastic, white in color and UV stabilized for maximum protection. The tank shall be of a special configuration and is so designed to be completely independent of the body and compartments. The top of the tank is fitted with removable lifting eyes designed with a 3-to-1 safety factor to facilitate easy removal. All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow and meet NFPA guidelines.</p> <p><u>TANK MOUNTING</u></p> <p>A stainless steel tank mounting cradle shall be supplied. The tank mounting cradle shall consist of a minimum of seven (7) crossmembers and two (2) full tank length longitudinal members. The tank shall rest on the tank mounting sub-frame, and shall be insulated from the sub-frame with a 2-1/2" wide rubber insulator. The tank is designed on the free-floating suspension principal and shall not require the use of hold downs. The tank shall be completely removable without disturbing or dismantling the apparatus body structure. The water tank cradle shall be designed to be completely independent of the apparatus body to eliminate torsional stress loading in the body. No exception will be permitted to the tank mounting requirements.</p> <p><u>PURCHASE INTENT</u></p> <p>The apparatus being purchased is expected to have an 20 to 25 year service life. Based on this requirement, the department is extremely concerned that the apparatus remains structurally sound and the outward appearance remains in a "like new" condition, with minimal maintenance and upkeep, throughout the intended service life.</p> <p>Aluminum apparatus bodies and differing construction designs will be reviewed and considered ONLY if the builder / manufacture provides in the respondent specifications adequate proof that procedures and materials employed in the design prevent corrosion over the intended service life. Burden of proof is on the bidder and final determination of acceptability will be solely determined by the department.</p> <p>The entire body design shall be of a laser machined, bolted design to allow for ease of removal for repair or replacement, without cutting welds.</p> <p><u>APPARATUS BODY DESIGN AND CONSTRUCTION</u></p> <p>The apparatus body shall be built of stainless steel and shall be designed exclusively for Fire Service use. The overall body width shall be 100 inches wide and shall be constructed in accordance with current NFPA requirements. All metal work shall be free of sharp edges, objects or corners. No exceptions are allowed to this requirement.</p> <p>The entire apparatus body shall be a precision laser machined, bolted construction, properly reinforced with integral flanges eliminating the need for additional structural shapes. Hose body fabrications shall be free of all internal projections which might injure personnel or fire hose.</p> <p><u>MODULAR BODY REQUIREMENTS</u></p>		

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<p>The body shall be completely modular in design allowing transfer of body components to a new chassis in the event of an accident or wear. Body components shall be removable from chassis without cutting or bending. The modular design shall also facilitate ease of repair or replacement of major or minor body parts. The mounting of the apparatus body shall be separate and distinct from the water tank mounting and the pump module mounting.</p> <p>All body panels are to be laser machined on a CAM controlled laser to ensure accuracy (+/- .010"). The body compartment floors, rear walls and roof areas shall be constructed of 12-gauge austenitic stainless steel.</p> <p>Interior and unexposed stainless steel panels shall be #4B finish to eliminate the need for painted surfaces in the compartments. All exterior stainless steel panels shall have #4B finish.</p> <p>The front and rear vertical corners of the apparatus body shall be recessed to provide a mounting area for vertical hand rails and telescoping light poles. Two (2) handrails shall be provided at the left and right sides of the apparatus body mounted vertically. A full width handrail shall be mounted at the rear of the body below the hosebed.</p> <p><u>COMPARTMENT ROOF CONSTRUCTION</u></p> <p>Each compartment top shall have a bolt in 12-gauge stainless roof section for supporting roof loads of up to 500 pounds per square foot without permanent roof deformation.</p> <p><u>REAR TOW EYES</u></p> <p>Two (2) tow eyes with an eye diameter of not less than 3.5" shall be attached directly to the chassis frame extensions. The tow eyes shall be fabricated of .625" thick steel.</p> <p><u>BODY MOUNTING SYSTEM</u></p> <p>The right and left side rear compartments shall be attached to a stainless steel rear body support. The stainless steel support shall be attached to the chassis frame extensions by means of an elastomer spring mounting system to form a modular integral body support system. The apparatus body shall not rest upon the chassis truck rails and must be separated entirely from the steel frame of the chassis to prevent galvanic action. Loose fitting u-bolt body mounting systems are not acceptable due to the likeliness of the apparatus body shifting or becoming detached from the chassis upon rear end impact.</p> <p><u>COMPARTMENT ROOF - TRIM CAP</u></p> <p>A bright finished aluminum diamond plate cap shall be provided on the upper body. The diamond plate cap shall wrap the outer edges of the body, with a vertical lip with a "lazy bend" drip edge over the compartment door area.</p> <p><u>REAR TAILBOARD</u></p> <p>A rear tailboard 12" deep shall be provided at the rear from "Laser Grip" stainless steel meeting NFPA 1901 step requirements.</p> <p><u>CHASSIS FRAME EXTENSIONS</u></p>		

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<p>There shall be a rear chassis drop frame extension to provide frame support for the rear of the apparatus body. This extension is to be bolted to the truck chassis as an integral part of the truck frame assembly and is to include rear tow eyes, crossmember and tailboard reinforcement.</p> <p><u>COMPARTMENT DESIGN AND CONSTRUCTION</u></p> <p>All compartments shall be manufactured from 12-gauge stainless steel with the vertical front and rear corner walls from 14-gauge, shall be of sweep out design and shall be bolted together. Stainless recessed round head bolts and stainless aircraft style "ESNA" nuts shall be applied with proper torque rating for each fastener. This type of construction shall greatly enhance the strength and ease of parts replacement in the event of damage and future modifications. Wherever possible, body bolts shall be hidden from plain view for appearance and ease of apparatus cleaning.</p> <p><u>COMPARTMENT VENTILATION</u></p> <p>Each compartment shall be provided with a laser cut louver to provide adequate ventilation.</p> <p><u>WATER TANK CAPACITY DEPARTMENT</u></p> <p>The water tank shall be "T" shaped, with the upper portion of the tank being wider than the base and shall have a gross capacity of 1630 US gallons.</p> <p><u>TANK LID & FILL TOWER</u></p> <p>The tank shall have a combination vent and fill tower. The fill tower shall be constructed of 1/2" thick Polyprene & Mac226 and shall be a minimum dimension of 10"x 14" outer perimeter. Inside the fill tower, there shall be a combination vent overflow pipe. The vent overflow shall be a minimum of schedule 40 pipe with a minimum ID of 6" that is designed to run through the tank, and shall be piped behind the rear axle beneath the tank.</p> <p><u>BODY MODULE CAPACITIES AND HOSEBED HEIGHT</u></p> <p>The total capacity of the body module exterior compartments shall be 144 cubic feet.</p> <p>The total capacity of the body hosebed shall be approximately 80 cubic feet.</p> <p>The body shall have an overall length of 164".</p> <p><u>LEFT & RIGHT REAR DIRECT TANK FILL</u></p> <p>The tank fills shall be fitted with a swing out 1/4 turn 2-1/2" valves. The valves shall be equipped with a 30-degree drop 2-1/2" NST female swivel inlet with screens. Self locking direct controls shall be provided on the valves. 2-1/2" chrome plated rocker lug plugs with chain shall be supplied.</p> <p><u>APPARATUS BODY HOSEBED</u></p> <p>The hosebed shall be constructed in such a manner that will prevent damage to fire hose. The hosebed shall comply with the current NFPA requirements. The interior of the hosebed shall be free of projections such as nuts, sharp edges or brackets that may damage hose. The hosebed and walls shall be manufactured from stainless steel. No exceptions to this requirement are allowed.</p>		
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<p>An aluminum extrusion shall be installed over the rear opening of the hosebed to protect the body from wear. The hosebed bottom shall be fitted with removable slatted, ribbed 6" heavy-duty extruded aluminum floorboards.</p> <p><u>ADJUSTABLE HOSE BED DIVIDERS</u></p> <p>Two (2) adjustable hosebed dividers shall be provided. Each divider shall be fabricated from .250" thick smooth aluminum plate, 5052-H32 alloy. The rear end of each divider shall have a 3" radius corner and shall be sanded and deburred to prevent damage to hose. There shall be two hand hold openings provided. One (1) at the rear in a vertical position, and one (1) approximately 24 inches in from the rear in a horizontal position.</p> <p><u>HOSEBED COVER</u></p> <p>A black vinyl hosebed cover shall be provided and designed to cover the entire main hosebed area. The cover shall be installed with "stretch cord type" fasteners along each side of the hosebed. A sand filled flap shall be incorporated into the rear edge of the cover. The hosebed cover rear flap shall have a positive locking device to meet the requirements of NFPA.</p> <p><u>LEFT SIDE COMPARTMENT DIMENSIONS</u></p> <p><u>FORWARD OF WHEEL WELL</u></p> <p>There shall be one (1) rescue style, full height, and split depth compartment ahead of the rear wheels. It shall have approximate dimensions of 56" wide x 63" high x 12" deep in the upper section and 24" deep in the lower section. (Doors closed)</p> <p><u>ABOVE WHEEL WELL</u></p> <p>There shall be one (1) high side reduced depth compartment centered over the rear wheels. It shall have approximate dimensions of 52" wide x 33" high x 12" deep. (Doors closed)</p> <p><u>REAR OF WHEEL WELL</u></p> <p>There shall be one (1) rescue style, full height, and split depth compartment behind the rear wheels. It shall have approximate dimensions of 51" wide x 63" high x 12" deep in the upper section and 24" deep in the lower section. (Doors closed)</p> <p><u>HINGED DOOR CONSTRUCTION</u></p> <p>All side compartments shall be provided with hinged doors. The hinged compartment doors shall be flush style so that the entire door fits flush against the apparatus body sides. All doors shall be provided with a high quality, continuous double seal type weather stripping to prevent moisture and dust from entering the exterior compartments. No exceptions are allowed to this requirement.</p> <p>Each door shall be double pan design with the outer door material being 12 gauge stainless steel with a 1/8" aluminum removable inner liner that shall have a natural finish to provide reflective qualities during night operations.</p> <p>All doors shall have gas shocks. A polished stainless steel 1/4" piano hinge shall be provided for each door. The exterior of the doors shall be painted to match the main job color. The left side door latches</p>		

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<p>shall be Hansen slam latches, with a chrome "D" ring with a 5-degree bend for easier grasping of each door handle with gloved hands.</p> <p><u>FENDER SIDE SKIRTS</u></p> <p>There shall be stainless steel fender side skirts located in the area of the rear wheels. The design of the fender sides shall be a minimal length to provide maximum compartment space in the apparatus.</p> <p><u>DUMP VALVE LOCATION</u></p> <p>The following dump valves shall be located ahead of the rear axle in the fender side skirt panel</p> <p><u>DUMP VALVE DRIVERS & OFFICERS SIDE</u></p> <p>Eight (8) inch diameter air operated dump valves shall be provided and installed on the driver's and officers side of the apparatus body. The dump valve shall include a 14" air operated telescoping chute. The valve shall be controlled by a switch located in the cab on the driver's side. As well as an additional dump valve control shall be provided at the rear of the apparatus body for the side dump.</p> <p><u>FUEL FILL - SIDE BODY</u></p> <p>The fuel fill shall be located in the rear fender area on the left side of the apparatus body. The spring loaded fuel fill door shall have "Diesel Fuel" laser cut in the face of the door. There shall be a vent line from the fuel tank to beneath the fuel cap to aid in fueling of the truck.</p> <p><u>BODY FENDERS - POLISHED</u></p> <p>The apparatus body fenders shall be made from 16 gauge polished stainless steel and shall be rolled, die stamped and fully removable. The stainless steel fenders and stainless fender liners shall be fastened with stainless bolts and ESNA nuts to the outer fender panel.</p> <p><u>REAR AXLE MUD FLAPS</u></p> <p>Two (2) black, anti-sail, mud flaps shall be mounted behind the rear wheels.</p> <p><u>SCBA BOTTLE COMPARTMENTS</u></p> <p>Two (2) SCBA bottle tube compartments shall be provided, one (1) in each side rear wheel well area. These tubes shall be located rear of the single axle tire. Each compartment shall be constructed of molded storage compartment and shall be provided with a hinged, cast aluminum door with a brushed finish.</p> <p><u>RIGHT SIDE COMPARTMENT DIMENSIONS</u></p> <p><u>FORWARD OF WHEEL WELL</u></p> <p>There shall be one (1) rescue style, half height, and full depth compartment ahead of the rear wheels. It shall have approximate dimensions of 56" wide x 33" high x 24" deep. (doors closed)</p>		
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	Yes	No
<div> <div>REAR OF WHEEL WELL</div> <div>There shall be one (1) rescue style, half height, and full depth compartment behind the rear wheels. It shall have approximate dimensions of 51" wide x 33" high x 24" deep. (doors closed)</div> <div>REAR COMPARTMENT DIMENSIONS</div> <div>There shall be one (1) half height compartment at the rear of the body. It shall have approximate dimensions of 48" wide x 29" high x 22" deep. (Door closed)</div> <div>REAR QUICK DUMP</div> <div>A 10" Newton stainless steel air operated, quick dump valve shall be installed at the rear center of the water tank. The dump valve shall be controlled by an air operated toggle style valve in the cab. The dump valve shall also be operable from the valve at the rear of the vehicle. There shall be a 36" stainless steel telescoping extension chute furnished on the dump valve. The telescoping extension chute shall be manually operated and shall have a retention device to hold in the chute in the closed position for travel.</div> <div>HINGED DOOR CONSTRUCTION - REAR COMPARTMENT</div> <div> <p>The rear compartment shall be provided with hinged doors. The hinged compartment doors shall be flush style so that the entire door fits flush against the apparatus body sides. All doors shall be provided with a high quality, continuous double seal type weather stripping to prevent moisture and dust from entering the exterior compartments.</p> <p>Each door shall be double pan design with the outer door material being aluminum plate with an aluminum inner liner that shall have a natural finish to provide reflective qualities during night operations. The body compartment shall have one (1) laser cut, louvered vent to provide the proper airflow inside the compartments.</p> <p>The rear doors shall have gas shocks. A polished stainless steel 1/4" piano hinge shall be provided for each door.</p> <p>A fixed stainless steel panel shall be provided between the doors for the rear dump chute to pass through.</p> <p>The right side door latches shall be Hansen slam latches, with a chrome "D" ring with a 5-degree bend for easier grasping of each door handle with gloved hands.</p> </div> <div>REAR BODY REFELCTIVE CHEVRON STRIPING</div> <div>The rear-facing vertical surfaces of the rear taillight panels and the area below the horizontal step, visible from the rear of the apparatus, including the rear compartment door(s), shall be equipped with six (6) inch wide retro-reflective striping in a chevron pattern sloping downward and away from the centerline of the vehicle at an angle of 45 degrees. Each stripe in the chevron shall be a single color alternating between red and yellow.</div> <div>LADDER STORAGE TANK COMPARTMENT</div> <div>The water tank shall have a storage opening through the tank for ladder storage inside the apparatus</div> </div>		

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<p>body. This compartment shall extend from the rear of the tank completely through the tank to allow the ladders to extend into the pump house for storage. The compartment shall store one (1) 24' two-section ladder, one (1) 14' roof ladder, one (1) 10' folding ladder, and three (3) pike poles.</p> <p><u>BACKBOARD COMPARTMENT</u></p> <p>A backboard compartment shall be provided on top of the ladder storage compartment. The backboard compartment shall measure 17" wide x 3-1/2" high and shall extend into the tank for a minimum distance of 75-1/2".</p> <p><u>HINGED DOOR LADDER STORAGE - REAR</u></p> <p>The rear through the tank compartment shall be provided with a horizontally hinged door with gas shocks and a polished stainless steel 1/4" piano hinge. The hinged compartment door shall be flush style so that the entire door fits flush against the apparatus body rear wall.</p> <p>The door shall be provided with a turn latch with a chrome "D" ring door handle with a 5-degree bend for easier grasping of the door handle with gloved hands.</p> <p>The following ladders shall be provided with the apparatus.</p> <p><u>ROOF LADDER</u></p> <p>One (1) 14' Duo-Safety model 775-A, aluminum channel rail roof ladder</p> <p><u>ATTIC LADDER</u></p> <p>One (1) 10' Duo-Safety model 585-A aluminum folding attic ladder</p> <p><u>EXTENSION LADDER</u></p> <p>One (1) 24' two-section Duo-Safety model 900A solid beam, aluminum extension ladder</p> <p><u>BODY RUBRAIL - POLISHED STAINLESS STEEL</u></p> <p>The apparatus body shall have a bolt on extruded, polished stainless steel rub rail affixed to the side beneath each door area. The rub rail shall provide additional strength and protection and shall be constructed of 3/8" x 1-1/2" stainless steel fastened with stainless steel fasteners. Each rub rail shall be attached to the apparatus body with stand off spacers made from 1" diameter UHMW Polyethylene bar stock.</p> <p><u>STAINLESS STEEL APPARATUS BODY PAINTED</u></p> <p>The following apparatus body components shall be painted job color. The exterior surface of the hosebed side walls, and all side compartment doors.</p> <p><u>PAINT SPRAY OUT SAMPLE FOR APPROVAL</u></p> <p>A spray out sample shall be provided of the finished paint color prior to painting the apparatus. The sample shall be approximately 1/2 square foot in size.</p> <p><u>EXTERIOR COMPARTMENT LIGHTING</u></p>		

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<p>A minimum of two (2) compartment lights shall be provided for each body compartment. Each body door shall have an automatic compartment light switch.</p> <p><u>REAR WORK LIGHTS</u></p> <p>Two (2) recess mounted area work lamps shall be provided above the tailboard, one (1) each side on the inner face of the beavertail. The lights shall be switched on when the parking brake is set and the apparatus is running with the master battery switch in the "ON" position.</p> <p><u>UNDERBODY LIGHTING</u></p> <p>Underbody ground lights shall be provided under the apparatus body as required by current NFPA 1901. Ground lights shall be provided at the rear of the apparatus body, two (2) each side, to illuminate under the rear compartments.</p> <p>There shall also be two (2) provided at the outer front corners of the apparatus body, one (1) each side, to illuminate the area under the forward compartments and pump panel areas. All underbody ground lights shall be switched on when the parking brake is set and the apparatus is running with the master battery switch in the "ON" position.</p> <p><u>FOLDING STEPS</u></p> <p>Folding and fixed steps shall be provided on the front and rear of the apparatus body. Steps shall be provided and installed per NFPA requirements.</p> <p><u>REAR HANDRAILS</u></p> <p>Three (3) ribbed, solid stock 1-1/4" diameter, aluminum handrails with chrome plated stanchions shall be supplied and installed at rear of the apparatus body. There shall be two (2) 24" long vertical handrails installed, one (1) each side on the inside of the rear area of the body and one (1) 69" long handrail installed horizontally along the upper edge of the beavertail area.</p> <p><u>HARD SUCTION TRAYS – LEFT & RIGHT SIDE</u></p> <p>Four (4) abraded aluminum hard suction trays shall be installed on the 2ea on the left side and 2ea on the right side of the apparatus.</p> <p>Each tray shall be designed to accommodate from three to six inch hard suction hose in a twelve foot length and employ a design without fasteners or clamps to hold the suction hose in place in the tray. The suction hose shall be able to be removed by one person from the rear of the apparatus.</p> <p><u>PORTABLE TANK STORAGE</u></p> <p>An electric portable tank storage rack shall be installed on the right side of the apparatus body to provide tank storage above the right side compartments.</p> <p>The Ziamatic "Quic-Lift" tank rack shall be of the dual electric actuator design. The tank rack assembly shall be located in the center of the body, above the rear wheel well area, with a weatherproof control switch provided on the right side pump panel in full view of the rack. An aluminum cover shall be fabricated for the Zico folding tank rack. The cover shall enclose the top and outer exposed side of the folding tank rack. The cover shall be painted to match the color of the</p>		

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<div>apparatus body.</div> <div>FOLDING TANK</div> <div>A portable 2100 US gallon Fol-Da-Tank brand, model FDTA-2100-ALUM, folding tank shall be provided with the apparatus. The folding tank shall have an aluminum square tube frame and a red 22 ounce vinyl liner.</div> <div>HOSEBED FLOODLIGHT</div> <div>One (1) Unity AG hosebed floodlight shall be mounted at the front right corner of the hosebed.</div> <div>BODY REAR SCENE LIGHTS</div> <div>There shall be rear scene lights installed as high as possible on both sides of the rear of the apparatus body.</div> <div>The lighting position(s) shall have two (2) Fire Research Focus model LED900-Q65 surface mount lights installed. The light housing shall be aluminum with a chrome bezel. The rear scene lights shall be operated by a switch located beneath the left rear step. If the scene light is left in the 'ON' position the lights shall automatically turn off when the truck is parking brake is released. There shall also be a switch in the driver's area to turn on the rear scene lights. Additionally, the rear scene lights shall come on to supplement the back-up lights when the transmission is placed into reverse.</div> <div>FORWARD FACING BROW LIGHT</div> <div>One (1) brow light shall be provided and mounted centered on the leading edge of the cab roof facing forward.</div> <div>There shall be One (1) Fire Research Focus FCA800-Q14 Series roof mount lamphead(s) provided. The brow light shall have a white housing One (1) 12-volt, switch shall be located in the cab switch panel.</div> <div>CAB MOUNTED QUARTZ LIGHTS</div> <div>The following lights (one each side) shall be provided mounted on the left & right rear of the cab rear exterior wall:</div> <div>Fire Research Focus model FCA100-Q14 lamp heads shall be provided. -ON option switch shall be installed on the lamp head. he light head shall be mounted on a side mount push up telescopic pole.</div> <div>DEEP ALUMINUM SHELVES - ADJUSTABLE</div> <div>Two (2) adjustable aluminum shelves shall be installed and shall have a flange 1-1/2" deep and a minimum material thickness of .190" Each shelf shall be adjustable in height and held in place by four (4) extruded uprights.</div> <div>Each adjustable shelf shall be installed as follows:</div> <div>1ea L1 & L3</div> <div>VERTICAL DIVIDERS</div>		

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<p>Two (2) vertical dividers shall be provided in the 1ea L1 & L3 exterior compartments. The placement of each divider shall be determined at the preconstruction conference.</p> <p><u>FULL HEIGHT PULL OUT VERTICAL TOOL BOARD</u></p> <p>One (1) full height vertical pull out tool board(s) shall be installed in an exterior body compartment.</p> <p>Each board shall be equipped with Grant slides and a gas shock to hold the board in both the in and out positions.</p> <p>The tool board shall be made from .25" aluminum and be fully adjustable across the width of the compartment.</p> <p><u>ALUMINUM TOOL MOUNTING EXTRUSION</u></p> <p>Both sides of the tool board shall be covered with FoxTrax aluminum extrusion tool mounting.</p> <p>The vertical tool mounting board shall be installed in the L1 compartment.</p> <p><u>CUSTOMER INSTALLED GAS GENERATOR R3 COMPARTMENT</u></p> <p>The apparatus manufacturer shall install the specified line AC wiring for a department supplied & installed generator. A 12 VDC starting cable set shall be terminated in the R3 compartment for the generator starting power. The generator shall be mounted in the R 3 compartment.</p> <p>A heavy duty aluminum pullout tray shall be installed and shall be equipped with stainless steel slides and a gas shock to hold the tray in both the in and out positions with a capacity of 500 pounds.</p> <p><u>LOAD CENTER PANEL</u></p> <p>A Square D Homeline circuit breaker panel shall be provided in the apparatus body. All breakers shall be properly labeled. The generator shall be connected to the circuit breaker panel with S/O cord. The circuit breaker panel shall be mounted to not interfere with shelves or trays. The load center panel cover shall be accessible with hand tools. The load center panel mounting location shall be in the R3 compartment.</p> <p>All AC wiring in the apparatus body shall be installed in seal tite weather resistant conduit.</p> <p>Manual reset 120 & 240-volt AC circuit breakers shall be provided in the load center as required by the circuits installed.</p> <p><u>120 VOLT RECEPTACLES</u></p> <p>Two (2) 120-volt AC, single receptacle shall be provided with a weatherproof cover on the left side wheel well area of the apparatus body. The shall be equipped with NEMA 5-15, rated at 120-volt AC, 15-amp, single straight blade receptacles and spring loaded yellow covers.</p> <p><u>APPARATUS BODY ELECTRICAL SYSTEM</u></p> <p>All body electrical shall conform to NFPA 901 latest edition standards. The apparatus shall be</p>		

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<p>equipped with a heavy-duty 12-volt negative ground system. All 12-volt apparatus wiring shall pass through a heavy duty power disconnect solenoid. The 12-volt control of the power disconnect switch is to be triggered by the Master Battery Disconnect.</p> <p>The apparatus shall be equipped with a Class1 Es-Key Management System for complete control of the electrical system devices.</p> <p>All wiring shall be color-coded and function coded to assist in servicing the electrical system. All circuits shall be divided and balanced for proper load distribution. Where possible, wiring shall be routed in looms as a single harness. Heat resistant convoluted loom shall be used. Only solderless, insulated crimp automotive electrical connectors shall be used.</p> <p><u>CAB ICC MARKER LIGHTING</u></p> <p>Five (5) amber Whelen OS Series LED cab face mounted clearance lights with chrome flange shall be supplied, mounted above the windshield.</p> <p>Two (2) amber Whelen OS Series LED side clearance lights with chrome flange shall be supplied, one (1) each side mounted ahead of the front door. An amber diamond shaped reflector shall be mounted on the lower corner of each cab front door adjacent to the door hinge.</p> <p><u>APPARATUS ICC MARKER LIGHTING</u></p> <p>Two (2) amber Whelen OS Series LED side clearance lights with chrome flange shall be supplied, one (1) each side mounted ahead of the forward body compartment. Five (5) red LED clearance lights shall be supplied, mounted in the rear of the apparatus. Two (2) red LED clearance lights shall be supplied, mounted facing the side of the apparatus.</p> <p><u>HEADLIGHTS</u></p> <p>Four (4) rectangular halogen headlights shall be supplied. When the parking brake is released and the master battery switch is in the on position, the head lamps shall be illuminated to 80% brilliance. (note these headlights are to be mounted in the upper position so as not to be blocked by the front suction)</p> <p><u>TURN SIGNALS</u></p> <p>Two (2) rectangular Federal Signal, model QL64Z-TURN, LED turn signal lamps shall be mounted outboard of the front headlights on each side. These lights shall be amber in color.</p> <p><u>SIDE MOUNTED TURN SIGNAL LIGHTS</u></p> <p>Two (2) Whelen, model RSA02ZCR, linear amber LED turn signal lights shall be provided mounted one each side in the front wheel well area. The lights shall be mounted in a chrome flange.</p> <p><u>REAR STOP/TAIL/TURN/BACKUP LIGHTS</u></p> <p>The rear of the apparatus shall be equipped with Federal Signal QuadraFlare 6"x4" lights. The top light in the assembly shall be a red LED stop/tail light,. The middle light set shall be an amber LED lamp with a populated arrow shape, and the lower lights shall be clear LED backup lights. A one-piece polished aluminum trim casting shall be mounted around the rear stop/tail/turn and backup lights on each side of the apparatus.</p>		
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	Yes	No
<p>A solid state electronic backup alarm shall be installed on the rear of the apparatus and wired to the backup light circuit.</p> <p>One (1) license plate mounting bracket and incandescent light shall be provided. The light and bracket shall be located on the rear of the apparatus.</p> <p><u>ROOF MOUNTED LIGHTBAR</u></p> <p>A Whelen Freedom model FN72QLED, 72" light bar system shall be supplied and permanently mounted on the cab roof, as far forward as possible. This light bar system shall be supplied with eight (8) LED elements, six (6) red and two (2) clear.</p> <p><u>LOW LEVEL WARNING LIGHTS</u></p> <p>Two (2) Whelen warning lights, 600 Series, Super-LED light heads shall be mounted on the front of the chassis above the headlights, with a chrome bezel. Both warning light lenses shall be red in color.</p> <p><u>FRONT INTERSECTION LIGHTS</u></p> <p>Two (2) Whelen warning lights, 600 Series, Super-LED light heads shall be mounted one (1) on each side of the front bumper/gravelshield with a Whelen chrome plated flange. Both warning light lenses shall be red in color.</p> <p><u>ALTERNATING HEADLIGHT WARNING</u></p> <p>The headlights shall be provided with an alternating headlight feature. When the High Beam is selected the headlights shall become a standard high beam.</p> <p>Any clear warning light(s) shall be disabled automatically for the "Blocking Right of Way" mode additionally a cut off switch shall be supplied to turn off the alternating headlight function.</p> <p><u>BODY SIDE WARNING LIGHTS</u></p> <p>Two (2) Whelen warning lights, 600 Series, Super-LED light heads shall be mounted one (1) on each side of the body over the rear wheel with a Whelen chrome plated flange. Both warning light lenses shall be red in color.</p> <p><u>REAR UPPER LEVEL WARNING LIGHTS</u></p> <p>Two (2) Whelen Super-LED warning lights, model B6MM LED beacons, shall be mounted on the rear of the apparatus one on each side of the hosebed on polished stainless steel stanchions. The upper beacon portion of the light shall be red in color. The lower directional linear Super-LED rear facing portion of the light shall have, The driver's side lens red in color and the officer's amber in color.</p> <p><u>REAR LOWER LEVEL WARNING LIGHTS</u></p> <p>Two (2) Whelen warning lights, 600 Series, Super-LED light heads shall be mounted on the rear of the apparatus below the taillights at the lower outermost corners in vertical position with a Whelen chrome plated flange. Both warning light lenses shall be red in color.</p> <p><u>LED TRAFFIC ADVISOR</u></p>		

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<p>One (1) amber LED PowerStick traffic advisor, model PSKR-7Y, with cable, shall be mounted on the upper rear of the apparatus. The case work shall be constructed of 16 gage stainless steel. The LED PowerStick shall be recess mounted The switch control box is to be mounted in the cab allowing for easy operation by the driver.</p> <p><u>IDENTIFICATION AND SAFETY LABELS</u></p> <p>A permanent plate shall be installed in the driver's compartment to specify the quantity and type of the fluids used in the vehicle: A permanent plate with pump performance data and serial numbers shall be installed on the pump panel.</p> <p>A permanent plate shall be installed in the driver's compartment specifying the maximum number of personnel the vehicle is designed to carry. It shall be located in an area visible to the driver.</p> <p>An accident prevention sign stating "DANGER PERSONNEL MUST BE SEATED AND SEAT BELTS MUST BE FASTENED WHILE VEHICLE IS IN MOTION OR DEATH OR SERIOUS INJURY MAY RESULT" shall be placed so it is visible from all seating positions.</p> <p>An accident prevention sign stating "DANGER DO NOT RIDE ON REAR STEP WHILE VEHICLE IS IN MOTION, DEATH OR SERIOUS INJURY MAY RESULT" shall be placed so it is visible from the rear step of the vehicle.</p> <p><u>WHEEL CHOCKS</u></p> <p>One (1) pair of heavy duty, high tensile molded aluminum wheel chocks measuring 7.75" high x 8.5 wide x 15" long shall be provided with the apparatus. The wheel chocks shall have a bright yellow powder coat finish for high visibility, safety and corrosion resistance. No exception shall be allowed to these requirements. Two stainless steel chock holders shall be provided and mounted on the left side of the apparatus below the front body compartment.</p> <p><u>HARD SUCTION HOSE</u></p> <p>Four (4) 12' long x 6" diameter TFT lightweight PVC flexible suction hose shall be provided. The hard suction hose shall be equipped with a long handle female end and rocker lug male end couplings.</p> <p><u>FLOATING TYPE SUCTION STRAINER</u></p> <p>Two (2) Kochek model S60, 6" NST aluminum, floating type suction hose strainer shall be provided with the apparatus.</p> <p><u>LOW LEVEL JET SIPHON SUCTION STRAINER</u></p> <p>One (1) Kochek model LL607, aluminum, jet siphon low level suction hose strainer with 6" coupling shall be provided with the apparatus.</p> <p><u>REFLECTIVE SAFETY STRIPE</u></p>		
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<p>An 8" wide 3M brand Scotchlite reflective stripe shall be affixed to the perimeter of the vehicle. The stripe on each side of the apparatus shall run straight back to the cab rear door, with a reverse "Z" pattern shape on the cab rear door and then run straight back from there to the rear of the body. The striping shall be white reflective.</p> <p><u>LETTERING</u></p> <p>There shall be fifty (50) letters applied to the apparatus as directed by the Fire Department at the pre-construction meeting.</p> <p><u>SHIPPING OF COMPLETED APPARATUS</u></p> <p>The completed apparatus shall be driven from the factory to the dealer's location by the dealer's staff driver.</p> <p><u>APPARATUS PRE-DELIVERY</u></p> <p>The Apparatus shall receive a predelivery check over & cleaning prior to final delivery to the department. This service will be completed by the dealer.</p> <p><u>FINAL DELIVERY</u></p> <p>The Apparatus once predelivery check & cleaning has been completed shall be delivered to the Fire Department</p> <p><u>TEMPORARY REGISTRATION</u></p> <p>A temporary registration & NH inspection sticker shall be applied to the vehicle prior to delivery so as to ensure the department can start the driving portion of predelivery without waiting for title and registration documents to arrive. These items to be provided by the dealer a registered & bonded auto/truck dealer.</p>		
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